THE OIL WEEKLY

ENGINEERING « NEWS » STATISTICS

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SEPT. 4- 8	American Society of Mechanical Engineers, New York.
5	Oil Workers International Union, Hammond, Ind.
11-15	American Chemical Society, Boston, Mass.
13-15	National Petroleum Association, Atlantic City, N. J.
OCT. 4- 6	American Institute of Mining & Metallurgical Engineers, Petroleum Division, Galveston, Texas.
5- 7	Texas Mid-Continent Oil & Gas Association, Houston, Texas.
9-10	American Gas Association Annual Convention, New York.
16-20	National Safety Congress, Atlantic City, N. J.
18-20	Independent Petroleum Association of America, Fort Worth, Texas.
19-20	A. I. M. E. Petroleum Division, Los Angeles.
NOV. 13-17	American Petroleum Institute, Stevens Hotel, Chicago.
15-17	American Institute of Chemical Engineers, Providence, R. I.
DEC. 4- 7	American Society of Mechanical Engineers, Philadelphia.
APR. 11-12	American Petroleum Institute, Eastern District, Division of Production, Columbus, Ohio.

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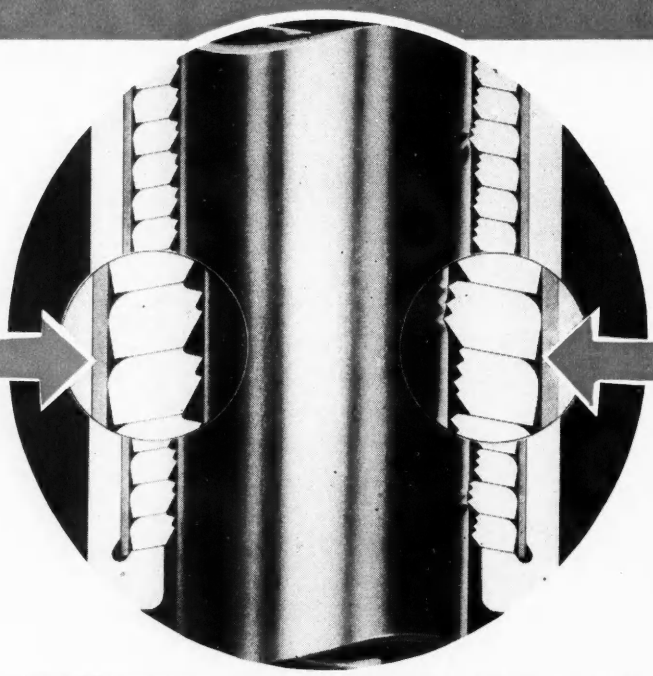
PROPERLY RECONDITIONED SLIP DOGS PROTECT YOUR PIPE
BECAUSE:
THE RESULTING UNIFORM THICKNESS OF DOGS DISTRIBUTES THE LOAD EQUALLY OVER A LARGE BEARING SURFACE.



IMPROPERLY RECONDITIONED SLIP DOGS DAMAGE YOUR PIPE
BECAUSE:
OF UNEQUAL DISTRIBUTION OF LOAD DUE TO VARIATION IN THICKNESS OF DOGS.

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GUARANTEED

to give service equal to **new** Mission Dogs.

SLIP DOGS CAN BE RESHARPENED
ONLY ONCE
because: more than one resharpening so reduces the diameter of the dogs as to let the slips hang too low in the bowl to operate efficiently.

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against this
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ONLY THE MISSION MANUFACTURING COMPAN
IS EQUIPPED TO PROPERLY RESHARPEN MISSION DOGS . . . becaus

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THE OIL WEEKLY

This Week's Panorama

RECENT trends of the oil industry's operations have been decidedly unsatisfactory, and the outlook has become increasingly clouded.

The industry has continued overoptimistic, apparently having overrated the prospects for future volumes of business, although it is true that consumption has been running well above last year's levels.

Excessive Gasoline Stocks Cloud Industry's Outlook

The latest weekly statistics of the industry, covering the week ended July 8, and embodied in the accompanying charts, were predominantly unfavorable, having reflected excesses of crude oil production, refinery runs of crude, gasoline production, and gasoline inventories.

After having held for several weeks within market demand as estimated by the Bureau of Mines, United States crude oil production rose above the market requirements about 16,000 barrels daily in the week ended July 8. Apparently, July allowables will result in less effective crude curtailment than the June allowables afforded.

Refinery runs of crude were cut down 60,000 barrels daily in the week of July 8, but were still not far below the all-time peak that they reached in early June.

The curtailment of plant runs resulted in a substantial reduction of gasoline production, the output having been 78,000 barrels a day smaller in the week ended July 8 than in the previous week.

Even at the reduced proportions, however, the gasoline production was too large to permit a normal, seasonal withdrawal of gasoline from storage, despite relatively large consumption. A draft of only 279,000 barrels was made during the week, whereas the withdrawals since the beginning of spring have averaged about 475,000 barrels weekly; while from March 31 to this date last year, withdrawals averaged approximately 900,000 barrels weekly.

Although gasoline inventories were held below last year's excessive curve earlier in the year, they failed to stay under that curve in the week ended July 1, and on July 8 totaled 80,823,000 barrels, as compared with 79,550,000 barrels on the comparable date last year.

At the present level, the gasoline inventory is approximately 11,000,000 barrels above estimated minimum requirements.

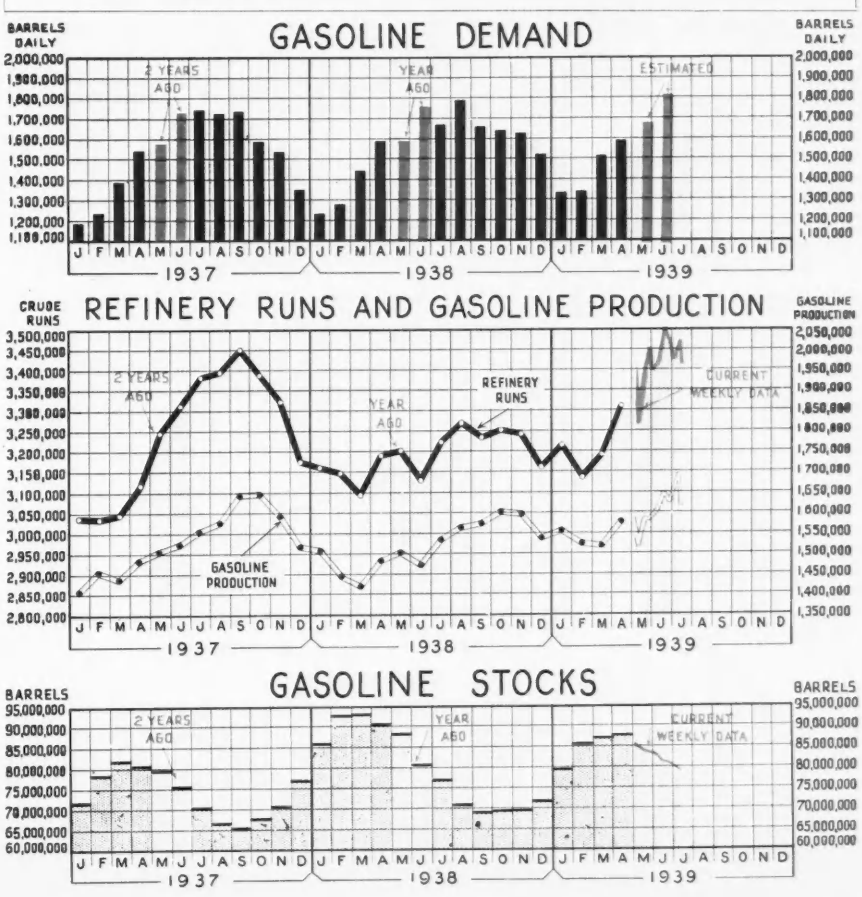
It has been estimated that approximately 61,000,000 barrels of gasoline would be adequate as working stocks at the commencement of the fall-winter season of lighter consumption on September 30. But recent trends have been toward a level of 73,000,000 to 75,000,000 barrels as of September 30, which would embody an indicated surplus of 12,000,000 to 14,000,000 barrels.

Wholesale Prices Sag In Unsettled Market

The oil industry's markets have continued somewhat unsettled, and wholesale prices of gasoline and

Gasoline Output Smaller But Stocks Cut Little

Storage reduced only 279,000 barrels in week ended July 8, despite smaller refinery runs and less gasoline production.


GASOLINE DEMAND
BARRELS DAILY
2 YEARS AGO
YEAR AGO
ESTIMATED
REFINERY RUNS AND GASOLINE PRODUCTION
CRUDE RUNS
GASOLINE PRODUCTION
REFINERY RUNS
CURRENT WEEKLY DATA
GASOLINE STOCKS
BARRELS
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1937
1938
1939

light fuel oils have been sagging.

Quotations have been lowered ⅛ cent a gallon within the past 10 days on some grades of gasoline in the Chicago market, and the No. 1 and No. 2 fuel oils are quoted ⅛ to ¼ cent a gallon lower.

In contrast, the markets for residual fuel oils, used in industrial production, have continued firm, as improved demand has resulted in a better inventory situation.

Stocks of gas oil and distillate fuels, used primarily for heating, are slightly larger than at this time last year. But inventories of the residual fuel oils are about 4 percent lower than a year ago, whereas demand is considerably better.

Oil Burner Sales Promise Large Fuel Oil Demand

The outlook for consumption of heating oils in the coming winter is promising, in view of recent heavy sales of oil burners.

In May, American manufacturers shipped out more oil burners than in that month of 1937, and for this year as a whole, shipments have been within about 16 percent of those in the corresponding period of 1937.

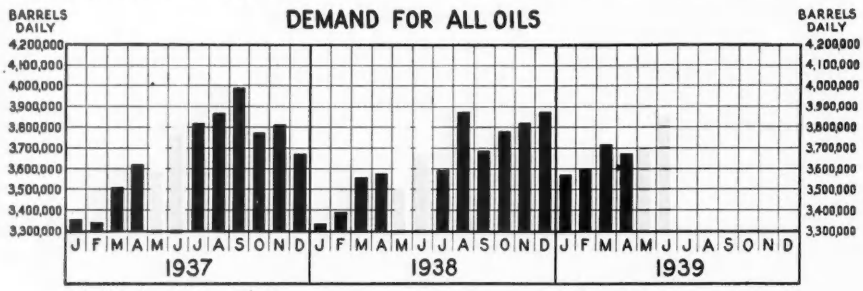
The Bureau of the Census reported that shipments amounted to 15,009 burners in May, 1939, as compared with 8732 in May, 1938, and 14,406 in May, 1937. For the first five months, shipments totaled 52,732 in 1939, compared with 35,793 in 1938 and 62,618 in 1937.

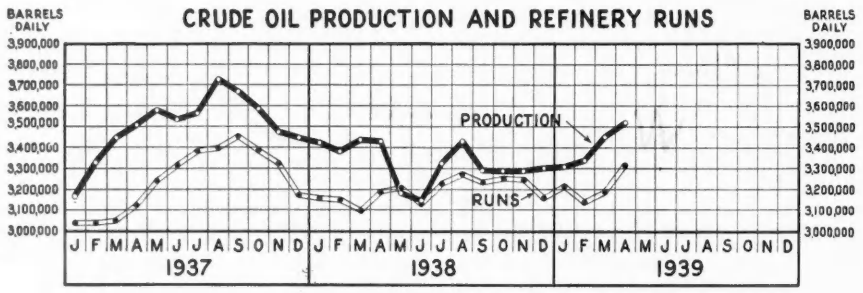
The above figures refer to burners used for heating homes and buildings, for heat treating furnaces and industrial ovens, and so forth, and for generating steam for power.

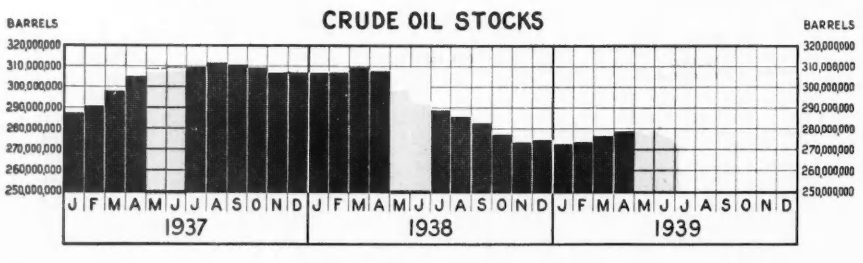
An even better showing has been made by distillate oil burners, used in ranges, stoves, water heaters, and space heaters. Shipments of those burners totaled 32,111 units in May, 1939, compared with 13,611 in May, 1938, and 21,783 in May, 1937. They aggregated 87,579 burners in the first five months in 1939, compared with 45,970 in 1938 and 86,805 in 1937.

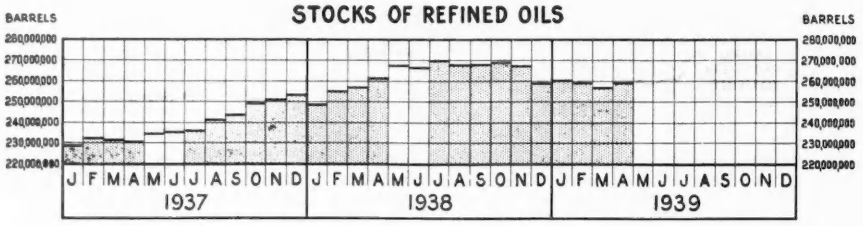
Large Crude Runs Boost Refined Oil Stocks

Although refinery runs were curtailed in week ended July 8, they remained relatively large. Stocks of refined products gained, as storage crude as well as new oil was processed.









New Uses for Petroleum Foreseen by Engineers

Although many important changes and advances have been made in petroleum refining, the changes have been aimed primarily at improving efficiency and quality in turning out the well-established principal products of the industry, such as gasoline, fuel oils, kerosene, lubricants.

In the future, however, greater attention probably will be directed toward turning out new products or products that are so far relatively unimportant.

Some engineers and chemists envision an eventual great widening of the uses of petroleum. Dr. A. E. Dunstan, British technologist, for example, recently made the forecast that plastics made from petroleum would be used extensively in building and furnishing houses, and that derivatives of petroleum would be used for making clothing and soles of shoes, for both lighting and heating houses, and even for synthetically making foods.

Business Improvement in Coming Months Forecast

Most current forecasts of business are hopeful. Encouragement has been given particularly by the sharp upturn in industrial production in June, as reflected in the data compiled by the Federal Reserve Board.

Among the cheerful forecasts lately was that of the National Association of Purchasing Agents, which foresaw a gradual improvement in business in the summer and fall, provided war did not break out and upset world conditions.

Drilling First Half of Year 11.7 Percent Under 1938

By L. J. LOGAN, Associate Editor

DESPITE several important retarding influences, drilling in the United States proved comparatively active in the first half of this year, well completions having been only 11.7 percent fewer than in the first 6 months of last year.

From January through June of this year, 12,091 wells were completed in the oil and gas fields and wildcat areas, as compared with 13,687 in the similar period of 1938.

The field work has almost measured up to the forecast made by this publication early in the year, despite the fact that conditions in the industry have not been quite as favorable as anticipated at that time. In the "Yearbook-Forecast" number, January 30, 1939, page 52, the forecast was made that this year would bring 25,965 completions, or 5.7 percent less than the 27,528 of 1938.

Prices Retard Drilling

Primarily responsible for less aggressive drilling this year than last year have been the lower prices for crude oil, following the general reductions of around 15 percent in October of 1938. For throughout the history of the industry, the prices of crude have had a dominant influence on drilling, stimulating field work when attractive and retarding it when less favorable.

This year, moreover, the mere threat of lower crude prices has tended to hold down drilling. In January and February the crude markets appeared fairly stable, and drilling reflected confidence in the prevailing prices. But in March and April there was considerable overproduction of crude and attendant fears that crude prices might not be maintained; and drilling was relatively conservative.

But in May and June, regulation of crude oil production was stricter, and reassurance was given that crude prices would hold at the established levels. Consequently, oil producers became less hesitant to drill more wells, and completions were up more than seasonally in those two months.

In June the operators appeared more confident than in May. Well completions had been 11 percent under last year's curve in May, but they were only 8.6 percent fewer in June, 1939, than in June, 1938.

Strict control of crude oil production is being continued in July, under the relatively low allowables of the prorated states that account for almost 90 percent of all United States production; and this strict curtailment is having the normal effect of stabilizing the crude markets. Consequently, drilling is continuing relatively active in the second half of the year.

Well completions in the United States averaged 72.3 daily in June, having increased somewhat from the 70.9 daily of May. The completions were 8.6 percent lower in June, 1939, than in June, 1938. In both May and April, the field work had been 11 percent under last year's record.

Accompanying figures show the amount of drilling that has occurred in June in each of the years from 1933 to 1939.

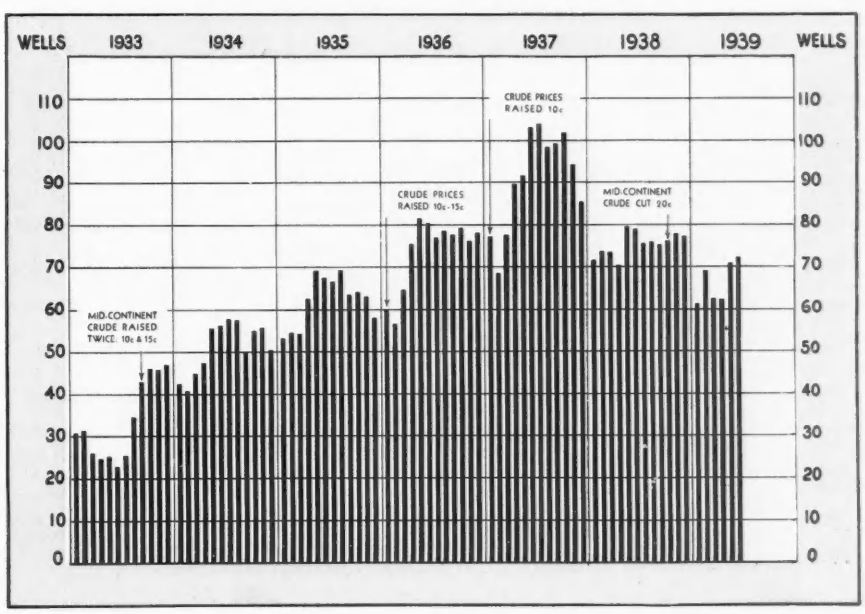
June of:	Average Number of Wells Completed Daily
1933	*22.7
1934	56.1
1935	67.6
1936	80.3
1937	103.3
1938	79.1
1939	72.3

*Minimum field activity for any month of depression period.

Although drilling was proceeding in April and May approximately along the pattern of 1935, it rose above that trend in June. The June activity was about mid-way between that of June, 1935, and that of June, 1936.

Although drilling was down 11.7 percent for the United States as a

Average Number of Wells Completed Daily in U. S.
(By Months, January, 1933-June, 1939)



whole in the first six months of 1939, as compared with the like period last year, several states and districts were more active.

The foremost increase in field work has been in Illinois, where almost four times as many wells were drilled in the first six months of 1939 as in the corresponding period of 1938. The state furnished 1709 new wells through June this year, compared with 444 in the like period last year.

Completions in Illinois have continued about one third as numerous as those in Texas, the most active state, and Illinois ranks above all other states except Texas in furnishing new wells. Illinois lately has been accounting for about 50 percent more completions than Oklahoma, twice as many as Kansas, Michigan, or Pennsylvania, more than three times as many as California or Louisiana, and five times as many as New Mexico.

The success in development of the new flush fields of Illinois has encouraged drilling in the adjoining state of Indiana, which consequently furnished over 50 percent more completions in the first six months of 1939 than in the similar period of 1938.

The most important increase in drilling outside Illinois and Indiana has been that in Michigan, where completions in the first six months of 1939 totaled 653, or 63 percent more than the 400 of the similar period of 1938. New, shallow fields in the southwestern part of the state have attracted extensive development, and a general advance of Michigan crude prices the past spring gave added incentive for drilling.

While the Middle West has had the outstanding expansion of drilling in the United States, important gains have occurred also in the Rocky Mountain region. However, the activity of the Middle West has resulted primarily from the opening of new fields, while the active drilling in the Rocky Mountain States has been due to increased market demand and refinery construction, as well as to the development of some new producing areas. Montana and Colorado furnished twice as many new wells in the first six months of 1939 as in the corresponding period of 1938, New Mexico 14 percent more, and Wyoming 10 percent more.

Although Louisiana and Texas have had fewer completions this year than last year, several districts in those states have shown increases. South Louisiana drilling is up 8 percent, and completions are running 8 percent higher in the Corpus Christi area of South Texas and 35 percent higher in West Central Texas.

Areas of Less Activity

Districts not mentioned above have had less drilling this year than last year.

Despite the fact that prices of Pennsylvania grade crude were increased several times in the first few months of this year, drilling has been materially less extensive this year than last year in the Appalachian states. Pennsylvania and New York have had only about one half as many completions, and West Virginia has had about three fourths as many. But Ohio and Kentucky have had drilling declines of only about 10 percent.

California drilling has been holding up better than generally expected, 508 wells having been completed in the first six months this year, compared with 671 last year.

Kansas has been a heavy loser in the shifting of markets for crude from the upper Mid-Continent to

Mid-Year Comparison Shows 11.7 Percent Fewer Completions Than in 1938, But 2.5 Percent More Production

STATE OR DISTRICT	*JUNE, 1939, COMPLETIONS AND CRUDE OIL PRODUCTION						COMPLETIONS AND PRODUCTION IN FIRST SIX MONTHS, 1939 AND 1938									
							WELLS COMPLETED			DETAILS OF 1939 DRILLING				BARRELS PRODUCTION		
	Total Wells	Oil	Gas	Dry	Initial Production	Production for June	1939: 6 Mo.	1938: 6 Mo.	Percent Change	Oil	Gas	Dry	Initial Production	1939: 6 Months	1938: 6 Months	Percent Change
Arkansas	23	15	...	8	6,621	1,721,550	110	115	— 4.3	84	...	26	34,884	9,773,650	8,497,100	+15.0
California	71	62	1	8	63,648	18,164,400	*508	*671	— 24.3	385	1	122	331,916	111,923,600	128,305,700	—12.8
Colorado	...	...	...	...	...	118,050	11	5	+120.0	2	2	7	240	694,900	729,450	— 4.7
Eastern States	610	414	93	103	73,154	‡2,889,000	3,592	3,163	+ 13.5	2,315	565	712	417,218	‡17,551,900	25,410,200	...
Illinois	268	216	1	51	69,652	6,969,000	1,709	444	+286.0	1,338	16	355	400,500	32,054,750	...	...
Indiana	23	6	3	14	1,363	...	84	54	+ 55.5	21	17	46	3,890	...	...	...
Kentucky	41	21	4	16	1,514	...	293	326	— 10.1	124	39	130	9,451	...	...	...
New York	†40	†36	2	2	143	...	†231	†385	— 40.0	200	20	11	809	...	...	...
Ohio	†78	†28	38	12	357	...	†400	†438	— 8.7	84	211	104	1,071	...	...	...
Pennsylvania	†129	†102	21	6	204	...	†633	†1,175	— 46.1	510	92	31	769	...	...	...
West Virginia	31	5	24	2	30	...	242	341	— 29.0	38	170	34	728	...	...	...
Kansas	¶127	¶93	6	28	123,804	4,906,500	¶621	888	— 30.1	444	25	152	560,490	28,730,450	30,216,550	— 4.9
Louisiana	78	45	3	30	11,900	8,083,800	480	527	— 8.9	306	16	158	93,842	47,045,550	46,660,150	+ 0.8
North Louisiana	25	11	3	11	1,931	2,195,850	185	255	— 27.4	120	9	56	39,512	13,140,750	14,306,450	— 8.1
South Louisiana	53	34	...	19	9,969	5,887,950	295	272	+ 8.4	186	7	102	54,330	34,964,800	32,353,700	+ 9.0
Michigan	141	83	7	51	36,799	2,008,200	653	400	+ 63.3	372	22	259	172,268	10,654,300	9,480,350	+12.4
Montana	7	7	...	...	703	462,300	50	26	+ 92.0	38	5	7	4,321	2,563,300	2,441,000	+ 5.0
New Mexico	47	40	1	6	14,831	3,234,150	286	250	+ 14.4	240	7	39	146,200	15,792,250	18,494,250	—14.6
Oklahoma	164	95	17	52	33,640	13,508,400	995	1,081	— 7.9	611	73	311	232,866	80,154,850	89,520,600	—10.5
Southeastern States	2	...	...	2	...	...	6	15	— 60.0	1	...	5	...	...	...	...
Alabama	...	...	...	...	...	...	1	1	...	...	...	1	...	...	...	...
Georgia	...	...	...	...	...	...	1	1	...	...	...	1	...	...	...	...
Mississippi	2	...	...	2	...	...	4	11	— 63.8	1	...	3	...	...	...	...
Tennessee	...	...	...	...	...	...	...	2	—100.0	...	...	...	...	...	...	...
Texas	752	516	27	209	418,416	39,471,600	4,734	6,505	— 27.2	3,397	132	1,205	2,446,167	244,198,250	231,812,500	— 5.3
East Texas Field	41	40	...	1	149,092	11,402,550	275	1,147	— 75.9	271	...	4	800,779	71,590,400	75,929,950	— 5.7
Rest of East Texas	30	13	4	13	3,828	2,763,090	148	263	— 43.7	65	18	65	27,970	17,411,350	17,024,650	+ 2.3
North Texas	139	82	...	57	36,948	2,537,550	891	1,263	— 36.6	482	1	318	201,314	12,301,200	12,877,250	— 4.5
South Texas	202	130	4	68	75,413	6,768,900	1,373	1,376	— 0.2	934	32	407	422,974	43,934,650	39,944,250	+10.0
Corpus Christi Area	102	81	2	19	45,717	...	651	602	+ 8.1	518	19	114	335,639	...	...	...
Laredo Area	72	41	2	29	28,980	...	516	540	— 4.4	322	11	183	79,271	...	...	...
San Antonio Area	28	8	...	20	716	...	206	234	— 11.9	94	2	110	8,064	...	...	...
Texas Gulf Coast	99	75	3	21	22,759	6,461,550	709	745	— 4.8	541	29	139	137,912	39,606,350	35,189,300	+12.5
Texas Panhandle	31	19	11	1	5,631	2,078,850	181	318	— 43.2	135	38	8	54,340	12,200,780	11,812,250	+ 3.3
West Texas	174	148	2	24	132,289	6,599,700	1,033	1,234	— 16.3	899	4	130	790,999	38,854,900	33,856,350	+14.8
West Central Texas	36	9	3	24	2,456	949,500	214	159	+ 34.7	70	10	134	9,879	4,663,300	5,178,300	— 9.9
Wyoming	3	3	...	...	4,925	1,883,800	45	41	+ 9.8	30	1	14	37,472	10,229,000	9,091,000	+12.5
Total United States	2,025	1,373	155	497	798,541	103,420,050	12,091	13,687	— 11.7	8,225	849	3,017	4,468,041	615,935,550	603,658,850	+ 2.5

* June completions cover not the calendar month, but the four weeks for 28 days, ended June 24.
‡ Does not include Illinois.
** Based upon A.P.I. reportings.
† Includes water-input and pressure wells.
¶ Includes salt water disposal wells.

Illinois, and Kansas completions have been 30 percent fewer this year than last year.

Although Oklahoma has suffered similarly, drilling in that state has declined only about 8 percent.

North Louisiana has had 27 percent less drilling this year than last year, and Arkansas has had 4 percent less.

Texas furnished 4734 completions in the first six months in 1939, compared with 6505 in 1938, a decrease of 27 percent. There has been only about one half as much drilling in 1939 as in 1938 in Eastern Texas and the Texas Panhandle and two thirds as much in North Texas. But West Texas activity is running within 16 percent of last year's record, and there have been declines of only 12 percent in the San Antonio area of South Texas, 5 percent on the Texas Gulf Coast, and 4 percent in the Laredo area of South Texas.

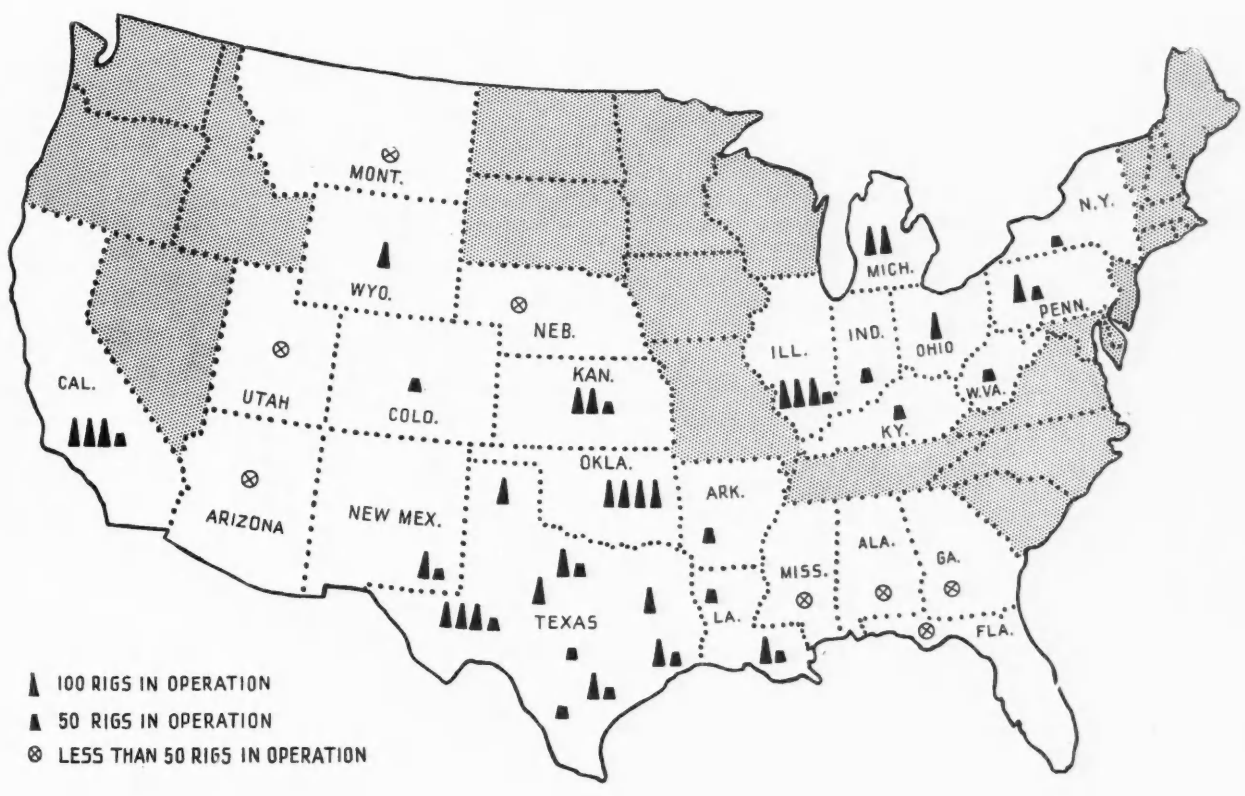
On July 1, 1939, there were 3726 drilling rigs in operation in the United States, or slightly more than on June 1, although 2.7 percent less than on July 1, 1938.

That total included wells drilling, rigging up, or temporarily shut down.

Drilling Rigs in Use Slightly Fewer Than Year Ago

STATE OR DISTRICT	TOTAL RIGS IN OPERATION (Drilling, Rigs Up, Shut-Down)				DETAILS OF JULY 1, 1939, ACTIVITY					
					Rigs in Operation			Prelim. Activity		
	July 1 1939	June 1 1939	July 1 1938	Percent Change from Year Ago	Drilling	Rigs Up	Shut-down	Derricks	Locations	Total Operations
Arkansas	45	47	53	—15.1	35	3	7	2		47
Arizona	6	6			5		1	1	3	10
California	333	299	302	+10.3	214	69	50	32	24	389
Colorado	29	23	38	—23.7	9		20			29
Eastern States	848	816	787	+ 7.7	456	128	266	97	135	1,080
Illinois	339	390	209	+62.3	149	52	138	59	81	479
New Fields	226	291	136	+66.2	107	38	81	47	57	330
Old Fields	113	101	73	+58.8	42	14	57	12	24	149
Indiana	56	48	36	+55.5	34	5	17	4	11	71
Kentucky	74	78	70	+ 5.7	40	7	27	10	20	104
New York	27	25	90	—70.0	18	6	3	6	9	42
Ohio	122	123	148	—21.3	70	20	32	4	3	129
Pennsylvania	161	161	126	+27.9	101	30	30	12	8	181
West Virginia	69	66	108	—36.2	44	8	17	2	3	74
Kansas	251	224	204	+23.0	194	35	22	7	4	262
Louisiana	194	189	210	— 7.6	164	12	18	17	48	259
North Louisiana	64	66	91	—29.7	43	5	16	9		73
South Louisiana	130	123	119	+ 9.2	121	7	2	8	48	186
Michigan	195	193	194	+ 0.5	124	41	30	6	47	248
Montana	24	44	41	—41.5	10	1	13		2	26
Nebraska	1	1	4	—75.0	1					1
New Mexico	146	145	117	+24.7	103	8	35	5	9	160
Oklahoma	388	363	349	+11.2	309	30	49	41	24	453
Southeastern States	14	17	21	—33.3	9	1	4			14
Alabama	1	2	4	—75.0			1			1
Florida	2	5	4	—50.0	2					2
Georgia	1	1			1					1
Mississippi	10	9	13	—23.1	6	1	3			10
Texas	1,180	1,179	1,448	—18.6	877	78	225	41	314	1,535
East Texas Field	14	14	64	—78.1	11		3	4	2	20
East Texas Border Counties	18	16	31	—42.0	11	3	4	1	1	20
Rest of East Texas	48	37	47	+ 2.1	24	6	18	1	5	54
North Texas	174	176	304	— 9.9	110	11	53	4	69	247
South Texas	272	288	329	—17.3	212	18	42	12	61	345
Corpus Christi Area	152	165	163	— 6.7	131	10	11	5	38	195
Laredo Area	64	66	77	—16.9	47	5	12	5	18	87
San Antonio Area	56	57	89	—37.1	34	3	19	2	5	63
Texas Gulf Coast	143	151	157	— 8.3	130	8	5	13	47	203
Texas Panhandle	94	97	107	—12.1	68	14	12	1	10	105
West Texas	338	321	326	+ 3.7	261	12	65	5	106	449
West Central Texas	79	79	83	— 4.8	50	6	23		13	92
Utah	3	3	6	—50.0	2		1		1	4
Wyoming	69	79	56	+23.2	54	4	11	2	3	74
Total United States	3,726	3,695	3,830	— 2.7	2,566	410	750	260	553	4,539

Rigs in Operation Register Increase Over June 1



Southwest Michigan Offers Attractive Pay Out Rates

By NORMAN X. LYON, Staff Writer

IMAGINE in this year of 1939, when the output of United States producing wells are curtailed drastically and when a large percentage of the new completions are carried to depths of considerable length, a paradisal bed of roses where 1900-foot wells initial as high as 200 to 472 barrels an hour and where a state production control body enforces a per well daily allowable of 200 barrels. That's Southwestern Michigan today.

In this present oil Garden of Eden wells pay out from 60 to 90 days on the basis of a 200-barrel allowable and 65 to 88 cent oil, using all new equipment and paying standard contract drilling prices. Such a situation must bring tears of disgust to the eyes of those tied down with development obligations in many an area of the country. For instance, in the gigantic East Texas field, where operators are lucky if they can pay out a 3600-foot well in 500 days due to having wells of an equal size to those in Southwestern Michigan prorated to a measly 20 barrels daily. Take dynamite loaded 10,000-foot plus Old Ocean, where an allowable of 250 barrels per day still requires something like 400 days to get your money back. Furthermore, compare Southwestern Michigan with nearly any district you wish—the answer is the same practically every time.

Is it little wonder that this unique development play now appears to have gained sufficient momentum to keep Southwestern Michigan active for from 2 to 5 years? Is there any puzzle why the Basin area of Central Michigan, with its deeper depths, will more or less sleep in her newly created shroud as long as young Southwestern Michigan enchants the oil man with seductive promises of quick returns on his investment?

Per well cost in shallow fields of Southwestern Michigan ranges from $3000 on a dry hole basis to $10,000 on an equipped producer basis, or roughly about one third of corresponding costs in Central Michigan. Per acre recovery in the former area is expected to be only from 1500 to 3500 barrels, as against an expectancy of 2500 to 4500 barrels per acre in the latter. But the profit on the investment in the Southwest territory continues, nevertheless, more attractive to the individual participant, it seems, despite the seeming additional advantage offered by higher crude prices in Central Michigan, where the top posting is 97½ cents for 3500- to 3900-foot stuff, as against those of Southwestern Michigan, ranging from 56 to 88 cents. As to likelihood of appearance of influences that might change this decided preference for Southwestern Michigan as a spot of intense activity, it should be pointed out that independents discovered all Southwestern Michigan fields in 1937 and 1938 and did about 97 percent of the development in them; they are well entrenched, one might say. Many substantial non-integrated oil companies, founded between 1927 and 1937 on production won from the Basin, are shoving their chips forward on the shallow prospects of Southwestern Michigan.

Wildcatting Shifts

The meows of Basin wildcats are feebly heard today, but the short-tailed critters know nothing of birth control in the southwest, where they threaten to overrun the country. The following vital statistics tell the story of the shifting scenes: In 1937 Southwestern Michigan censused only 29 wildcats as against 194 in the central part of the state; in 1938 there were 186 as against 168. But in the first 5 months of this year Southwestern Michigan chalked up 108 wildcats as against 48 in the Basin. The results of these campaigns in discoveries during the 17 months ending May 31 were: Southwestern Michigan, 11; the Basin, 2.

Most companies did not pay a great deal of attention to the shallow production of Southwestern Michigan when it was discovered in 1937. They either had proven areas under development elsewhere

Southwest Michigan Dominates State's Activity

PERIOD	ENTIRE STATE					SOUTHWEST MICHIGAN					WILDCAT RESULTS			
											Southwest Michigan		Remainder State	
	Completions	Oil Wells	Initial Production	Gas Wells	Dry Holes	Completions	Oil Wells	Gas Wells	Dry Holes	Initial Production	Oil	Dry	Oil	Dry
Five months of 1939	539	291	168,656	19	229	403	214	5	184	107,207	4	104	1	47
1938	1018	580	234,344	27	411	477	268	...	209	101,233	10	176	7	161
1937	955	622	307,629	66	267	119	61	21	37	25,443	1	28	2	192

or commitments on big wildcat blocks that they could not drop easily. Then, too, experiences back in 1925 and 1927 with shallow Traverse lime production had not been economically satisfactory, and prior to 1937 the formation was regarded more or less as a black sheep, irregular and too spotty for big development.

But times have changed. Now both the old-line Michigan independents and majors, as well as a number of companies which have not operated in Michigan in the past, are actively leasing, drilling or watching. Socony-Vacuum Oil Company, which has completed 16 commercial wells in the New and Old Salem fields, Allegan County, has a 30-well program ahead exclusive of wildcats. Sun Oil Company has drilled one deep wildcat and is drilling a second. Pure Oil Company drilled its first wildcat, dry, in Van Buren County recently. Gulf Refining Company, Carter Oil Company, Barnsdall Corporation, Transwestern Oil Company and others have taken up leases.

A big percentage of all wildcats are being drilled by individuals who are able to raise $5000 to $10,000 for a shallow test in Southwestern Michigan much easier than $10,000 to $20,000 for one in the Basin or elsewhere. Moreover, with major companies now showing a willingness to participate by taking checkerboard leases in independent blocks or by furnishing dry hole money aid, wildcatting may be expected to increase in the southwestern sector. Numerous wildcats have been drilled on a $2500 dry hole basis, and deals are promoted frequently on a 4-for-1 basis. In other words, cost figures of an average Central Michigan 3900-foot test are set up and for an equal interest in such a hypothetical test, 4 wildcats, each in a different lease block, are promoted with one sale in the shallow areas.

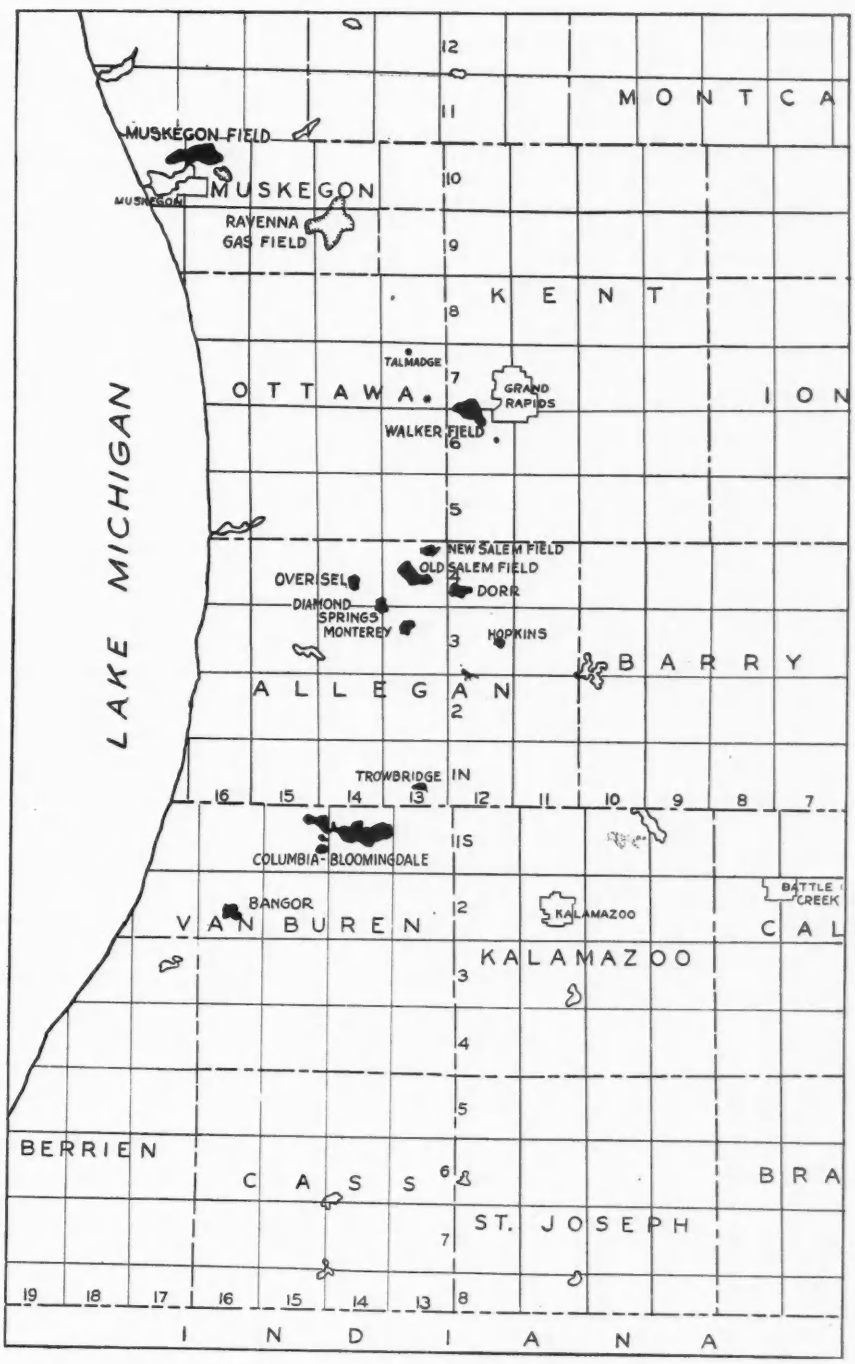
Effect of Proration

It is too early to fully determine the effect of the new oil conservation act on Southwestern Michigan in comparison with the deeper Basin district. At the moment, however, it appears that if anything, it will cause the shallow fields to be more of an inducement than before. The first proration order of the Supervisor of Wells and the Advisory Board set 200 barrels per day as the maximum on 5 of the most active Southwestern Michigan fields, ranging in depths from 1200 to 1900 feet, and a 125-barrel maximum in the Temple field, a 3900-foot pool in the Basin.

Ninety days would be a generous payout allowance for the shallow fields, whereas 10 to 15 months would be the shortest amortization in the Temple field on a 125-barrel proration allowable and 89 cent oil. Even in the event future orders favor deeper production with higher allowables, it is doubtful if the difference would be great enough to equalize the payout time.

Statistical Breakdown

A brief survey of statistics on Michigan production and drilling, broken down to compare the Basin



Southwest Michigan Where Shallow Drilling Gets Attractive Production

with the Southwest, tells the story of what has been happening in Michigan, and throws light on what may be expected the next few years.

In 1937 there were 955 wells completed in Michigan. Of this number 622 were oil wells, 66 gas wells and 267 dry holes. Oil wells had an initial potential of 307,629 barrels. Total actual production was 16,628,444 barrels, a record up to that time, as was the total of completions. Southwest Michigan accounted for 61 oil wells, 21 gas wells and 37 dry holes. The oil wells had a potential of 25,443 barrels. Total Southwest production was 493,130 barrels.

The following year, 1938, total completions in Michigan reached 1018, of which 580 were oil wells, 27 gas wells and 411 dry holes. Oil wells had a potential of 234,344 barrels. Southwestern Michigan accounted for 477 of the total completions, which were divided into 268 oil wells and 209 dry holes. Oil wells had a potential of 101,233 barrels, or just under 50 percent of the state total.

Actual 1938 production jumped from 493,130 the previous year to 2,454,038 barrels in Southwestern Michigan as the state total moved to a new record of 18,744,709 barrels.

In the first 5 months of 1939, total completions in Michigan reached 539. Of this number 291 were oil wells with a potential of 168,656 barrels, 19 were gas wells and 229 dry holes. Southwestern Michigan accounted for 403 of the total completions or 74 percent. Of this number 214 were oil wells, 5 gas wells and 184 dry holes. Oil wells had a potential of 107,207 barrels.

Per Acre Recoveries Low

On the other hand, average recoveries from the fields so far developed in the 1000- to 1900-foot Traverse of Southwestern Michigan have not been high.

Allegan County with 7 producing pools had an average per acre recovery of 1164 barrels, up to June 1. This is based on 2670 producing acres and total recovery of 3,107,281 barrels. The largest field in the county is Old Salem, which has 121 wells and 1130 producing acres at an average depth of 1600 feet.

Van Buren County on June 1, 1939, had recovered an average of 1649 barrels per acre based on 2075 of 2,901,897 barrels. The largest field in Van Buren County at that date was Bloomingdale, with 155 producing wells and 1040 producing acres at an average depth of 1200 feet.

Kent County, the only other important producing area so far developed, has not been in development or production long enough for recovery statistics to be of prime importance. Although actually discovered December 20, 1938, the field saw no active drilling on the probable axis until April. Recovery to June 1 was reported at 190,000 barrels, with 41 producing wells drilled and 315 acres producing.

Porter Basin's Best

Best average recovery in the Basin has been in the Porter field, Midland County, 3600-foot Dundee lime production, which passed 7000 barrels per acre January 1. The field was opened in 1933. Other recoveries in the Basin include Mt. Pleasant—4900 barrels per acre; North Buckeye, 4236; Sherman, 4115; Leaton, 2100; Edenville, 1905; Temple, 1600; and Clayton, 3925 barrels per acre.

Ultimate recoveries from the shallow fields are expected to average from 1500 to 3500 barrels per acre, depending on locality and methods of production. Several pools opened last year already are at the point of abandonment after recoveries of less than 1500 barrels per acre.

While average recoveries may be the guiding factor for the larger operators who take bigger acreage spreads, the smaller operator is influenced largely by the chance of tapping one of the high recovery "spots" in the shallow district. For example, in the Bloomingdale village townsite, several 10-acre leases have recovered between 125,000 and 170,000 barrels of oil in less than a year period. One 40-acre lease with 11 wells produced 310,000 barrels the first 10 months. Bloomingdale is expected to recover more per acre than most of the fields so far developed. On June 1 recovery for the field proper had exceeded 2600 barrels per acre.

In Walker field, Kent County, ultimate recovery is estimated by leading petroleum geologists from 4000 to 4500 per acre. But most deals are based on average recovery estimates between 2500 and 3500 barrels. One 6½-acre tract in Walker produced 97,000 barrels the first 3 months.

Three Major Strikes

Two years of development in Southwestern Michigan have resulted in discovery of 3 major areas, Salem, Allegan County; Bloomingdale, Van Buren County; and Walker, Kent County. A dozen other smaller pools, however, ranging in size from a half dozen to 30 wells, also have been discovered in this interim.

SalemTownship is the principal field in Allegan County. Discovered in February, 1937, it has 121 producing wells with 1130 acres producing from an average depth of 1580 feet, with 2 to 4 distinct pay zones in the Traverse. Initial potentials ordinarily are not as high in either Kent or Van Buren counties, averaging from 40 to 200 barrels natural, and from 100 to 900 per day after using acid.

Drilling machines and spudders are commonly used in Salem and other Allegan fields. The glacial drift ranges from 90 to 250 feet in thickness, and it is usual procedure to drive 10- or 8-inch casing. A second string of 8- or 6-inch casing

Southwestern Michigan Discoveries 1937-1938 First 5 Months 1939

FIELD	Discovery Date	Producing Wells	Producing Acres	Total Recovery	Producing Depth	Per Acre Recovery
Allegan County:						
Salem	2-16-37	121	1130	.....	1590	....
Trowbridge	6-17-37	4	60	.....	1600	....
Monterey	3- 7-38	21	220	.....	1620	....
Diamond Springs	7-16-38	56	495	.....	1465	....
Overisel "21"	8-17-38	27	315	.....	1475	....
Dorr	3-31-38	21	200	.....	1585	....
New Salem	12-20-38	31	330	.....	1645	....
Hopkins	2-11-39	5	160	.....	1640	....
Total Allegan County	.....	286	2910	3,107,281	....	1164
Van Buren County:						
Bloomingdale	8-16-38	155	1040	.....	1215	....
Upper Columbia	10-27-38	34	315	.....	1190	....
Lower Columbia	3-15-39	13	130	.....	1160	....
Gobles	2-22-39	9	80	.....	1165	....
Mill Lake	11-10-38	14	135	.....	1275	....
Bangor	2-28-39	6	60	.....	1010	....
Total Van Buren County	.....	231	1760	2,901,897	....	1649
Kent County:						
Walker	12-20-38	41	315	175,995	1900	558

usually is set between 250 and 400 feet to shut off water sands, with 5- or 6-inch cemented to the top of the Traverse. Average drilling time ranges from 10 to 14 days, including setting up of machines.

New Salem Busy

Chief activity at present is not in the Old Salem field, but in New Salem, 2 miles northeast of the original field. Thirty-one wells had been drilled to June 1 on 325 producing acres in New Salem. Structure, producing and drilling conditions are about the same as in Old Salem.

Tests made May 25 on 20 flowing wells in New Salem, showed 14 still flowing the allowable without water cut, the other 6 cutting from 1 to 3 percent water. Original casing pressures ranged from 420 to 450 pounds and on May 25 ranged from 110 to 420 pounds.

Bloomingdale Peak Passed

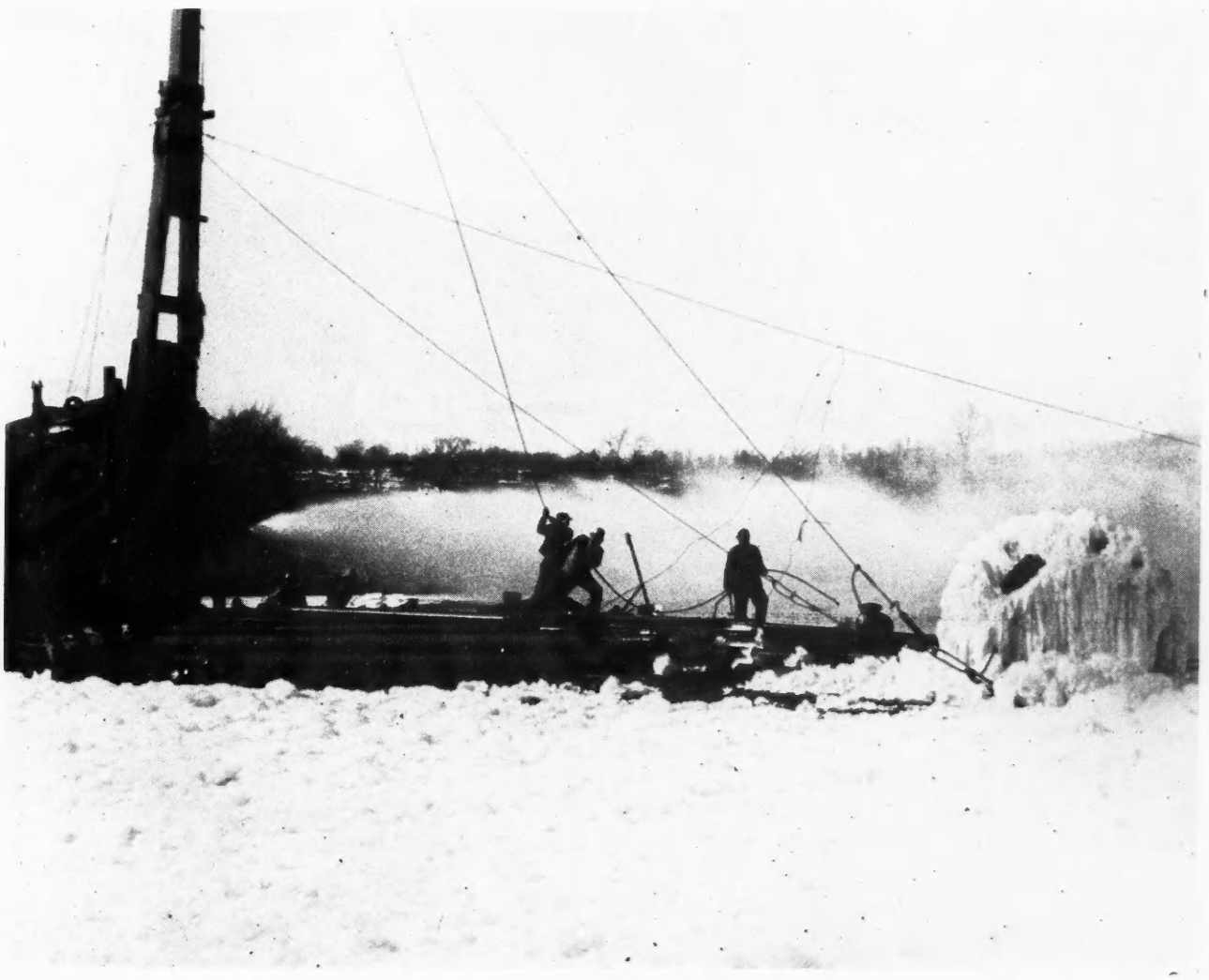
The major field in Van Buren County is Bloomingdale, which now extends 9 miles east-west and averages from a quarter to a mile in width. Michigan operators usually refer to the district as 5 different pools, including Upper and Lower Columbia, Bloomingdale, Mill Lake and Gobles. The five have not been completely connected but that appears only a matter of time.

Bloomingdale townsite is in the approximate geographic center of the district and apparently in the geological center. Most prolific production has been developed either in the townsite or on its immediate borders. Average depth of wells is 1200 feet. Spudders and drilling machines, with a few exceptions, have been used for development. Drilling time has been as low as 5 days, but averages from 8 to 11 days.

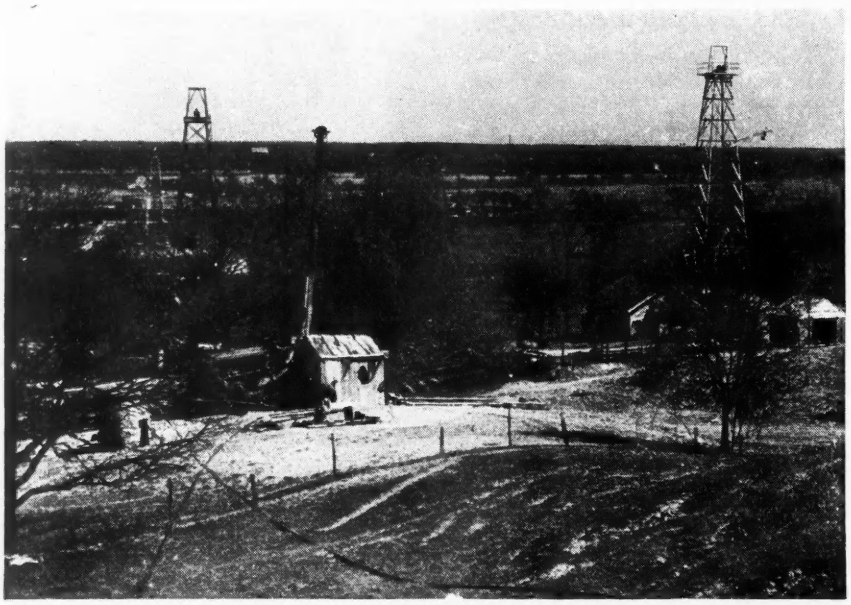
The glacial drift varies in thickness from 175 to 300 feet. Eight-inch drive ordinarily is landed at the base of the glacial drift. No other casing is set until the bit reaches the top of the Traverse formation. Holes in most cases drill dry and a majority of the wells are cemented with a packer set on the bottom joint of casing. Five or six-inch casing is set on the Traverse for the producing string.

Boom development apparently had passed the peak in Bloomingdale with only 15 to 20 machines active in June. Most wells are now on the pump.

High flush production characterized the Bloomingdale development with initials ranging up to 150 barrels per hour. Recoveries are expected to average from 3000 to 3500 barrels per acre, considerably high-



Crown Development Company's Johnson 1, 5-6n-12w, Kent County, an extension well to Walker field which started to boom early this year. Test developed 10 million feet of Berea gas at 1040 feet and drillers were two months killing a blow-out. It was eventually completed in Traverse for 190 barrels per hour.



This view in Walker-Kent County field shows three types of drilling methods (spudder, standard tools and rotary in background on left) and close spacing in center of field. Drilling machines and spudders have been used on about 90 percent of all Southwestern Michigan drilling for 1000 to 2000 foot holes. Standard tools and rotary have been used in new Walker-Kent field to some extent.

er than other Southwestern Michigan fields.

With drilling conditions the most economical and recoveries grossing higher, Bloomingdale probably will have the highest net profit of any of the Van Buren fields so far developed, despite close spacing and unnecessary drilling in the townsite, but whether many of the wells will pay out, despite the comparatively high recoveries indicated, remains a question.

Up to June 1, a total of 2075 producing acres developed in Van Buren County had yielded oil at the rate of 1649 barrels per acre. Of this producing acreage, 1040 were in Bloomingdale, 315 in Columbia, 130 in Lower Columbia, 80 in Gobles, 135 in Mill Lake, and 60 in Bangor. There were 231 producing wells, of which 155 were in Bloomingdale proper.

Kent County "Hot"

Currently the hottest play in Southwestern Michigan is Kent County, where Walker field, 2 miles west of Grand Rapids, was discovered in the fall of 1938. Development did not get fully under way until the spring, however, when tests following the discovery established production ranging up to 200, and in one instance 472, barrels per hour.

Walker field, as now defined, extends 3 miles on a southeast trend and is more than a mile wide at some points. Closer toward the center of the Basin, Walker field's average Traverse producing depth is 1850-1900 feet. Drilling costs are from $2500 to $4500 per well higher than in either Allegan or Van Buren counties.

While the glacial drift is only 50 to 90 feet thick, and requires much less drive pipe than that in the other shallow fields, the formations between the drift and the producing formation carry oil, gas and water and require a more expensive casing program. The usual procedure is to cement a string of 8-inch casing at about 450 feet through the Marshall and Red zones. The Marshall carries considerable water, enough to flow in many cases.

A 6-inch string usually is cemented between 1050 and 1150 feet, below the Berea zone, which carries both oil and gas, but is not consistent. Some tests have drilled through as high as 12 million cubic feet of gas in this formation; others have produced from 2 to 10 barrels natural of Berea oil. Where no gas or oil is drilled, the 6-inch string is eliminated. Where gas or oil is found in the Berea, the state requires that the 6-inch be cemented back above the 8-inch casing point. Where no 6-inch is set the 5- or 6-inch producing string must be cemented back to the 8-inch.

Costs, including tanks, range from $8500 to $11,000 per well in Walker. Spudders and machines are being used for most wells, but rotary has been turned to by one large independent. Costs are approximately the same by either method with savings in casing offset by higher per-foot drilling costs. However, rotary has cut completion time from an average of 15 days to an average of 7; also it has a tendency to eliminate possible trouble in drilling through the Berea gas zone. Best time reported with rotary was 72 hours below the surface pipe to 1720 feet, the 6-inch casing seat for the producing string.

Initial production at Walker varies from 25 barrels per day to 400 barrels an hour, although the average initial after acid treatment ranges from 400 to 1000 barrels per day. Two distinct pay zones, ranging from a foot to 14 feet thick, have been logged. Many of the wells show from 500,000 to 2,000,000 feet of dry gas just above the oil pay.

Forty-seven commercial wells have been drilled in the Walker field to June 15. With 325 producing acres, operators look for a minimum of 500 to 750 acres to produce. Recent extensions indicate the estimate conservative.

Actual recovery was only 558 barrels to the acre on June 1, but ultimate recovery is estimated from 2500 to 4000 barrels. The bulk of the wells drilled prior to June 1 were on the northwest flank of the field, and now that drilling is concentrated further southeast recovery averages are expected to increase.

A test made on Crown Development Company's Johnson 1, Section 5-6n-12w, flowing at the rate of 969 barrels per day through 2½-inch tubing had a gas/oil ratio of 332 cubic feet with 680 pounds on the casing and 325 pounds on the tubing. Flowing at 2370 barrels daily against 700 pounds casing pressure and 195 pounds tubing pressure a gas/oil ratio of 392 cubic feet was attained.

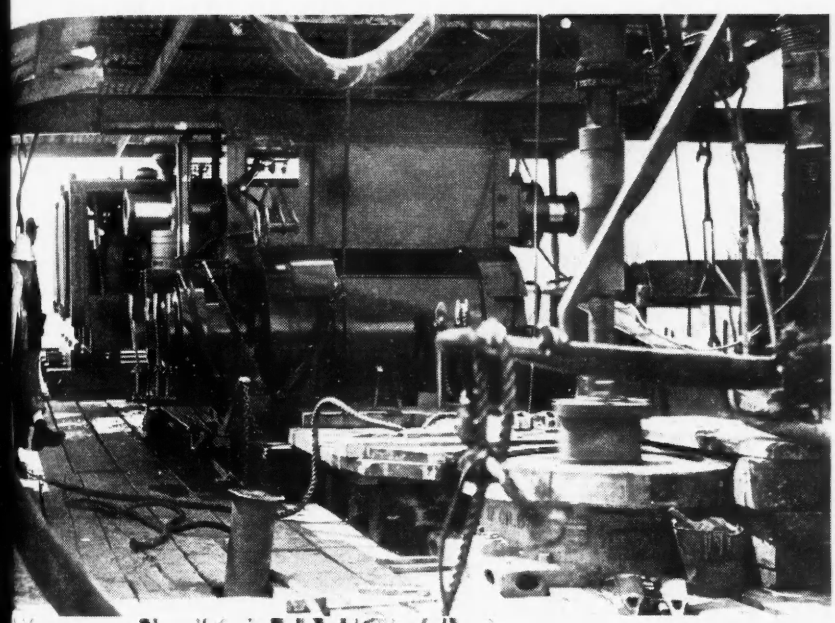
By far the largest flow ever encountered in the shallow horizons of Southwestern Michigan was found recently in the Walker field, when Lenoran Petroleum Company's Maynard 1, Section 4-6n-12w, flowed 472 barrels the first hour and 1900 barrels the first 8 hours.

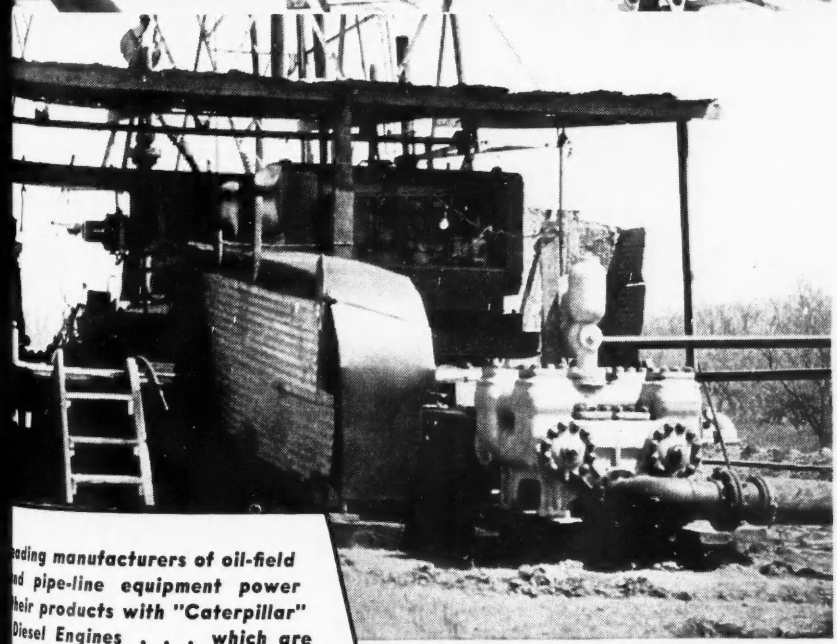
Disposal of Oil

Five pipe line companies buy the bulk of the production from the shallow fields. They are Tri-Lakes Corporation, subsidiary of Stand-

79,100 FT. OF HOLE AT A RAPID PACE

Twenty-two wells in less than a year, for a total of over 79,000 feet, represent "a lot of hole"—even when using heavy, expensive equipment. With this Wilson Giant Portable rig, powered with two D13000 "Caterpillar" Diesel Engines, Grace & Wood, of Wichita Falls, accomplished this drilling at record-low power cost. Here's Mr. Wood's story:





"July 1, 1937, we purchased a Wilson Giant Portable drill rig powered with two D13000 'Caterpillar' Engines. These engines have worked steadily ever since, having drilled wells as follows: One 2600 ft., eight 3000 ft., two 3500 ft., one 3800 ft., seven 4000 ft., one 4200 ft., one 4500 ft., and one 5000 ft.

"After the engines had drilled something over 60,000 ft. of hole, we had them overhauled at a very nominal charge, which put them back in shape as good as new. Other than the overhaul, we have had only one piston and one fuel-pump spring replacement. On each repair job *we got prompt and satisfactory service with no loss of drilling time.*

"We can truthfully say that the 'Caterpillar' engine is the best built engine we have found on the market, proven to us many times over. . . . In coming out of the hole or pulling the 6x16 Wilson-Snyder mud pump, the 'Caterpillars' gave us plenty of steady power to carry the load. Also, the rig does just about as quick a job of drilling a well as any of the heavy expensive rigs, including steam. *On several occasions we have equaled the record drilling time in the KMA field.*

"As for operating economy, we find that over a period of several months the engines will take each 24-hour day of operation 250 gallons of 5½c fuel and, including 100-hour crankcase changes, 7 gallons of 62c lubricating oil for the two engines. There is no doubt that the 'Caterpillar' fuel system is simple and easier to get along with than a magneto and gas carburetor."

CATERPILLAR TRACTOR CO., PEORIA, ILL.

...ading manufacturers of oil-field ...d pipe-line equipment power ...their products with "Caterpillar" Diesel Engines . . . which are backed by the most complete, efficient and readily available parts-and-service facilities of any engines in the world. NINE ENGINE SIZES—32 to 160 maximum horsepower.

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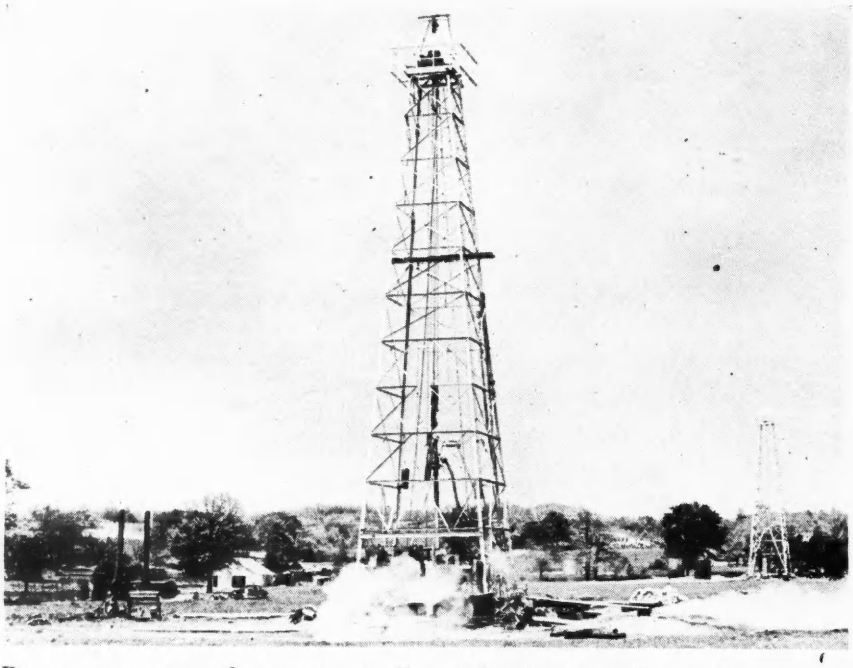

Rotary, steam-powered, operating in Kent field, Michigan. This is the only one used to date in Southwest Michigan and was brought in from Illinois.

ard Oil Company of Ohio; Imperial Refining Company, Naph-Sol Refining Company, Commonwealth Pipe Line Company and Vandale Corporation. These companies operate little more than field gathering systems in most cases, with short 4-inch main lines leading to railroad loading stations. Tri-Lakes, which buys the bulk of the shallow oil, ships by rail to Chelsea, Michigan, where crude is transferred to Michigan - Toledo Pipe Line Company's main 8-inch line between Mt. Pleasant and Toledo, Ohio. Other buyers furnish Michigan independent refineries.

Southwestern Michigan crude ranges in gravity from 31 to 45, with the bulk of the production around 41 gravity. It has a better demand for asphalt refining than for gasoline.

Two small topping plants, both located in Bloomingdale, are under construction, the direct outgrowth of the Southwest Michigan boom. Older independent refineries such as Old Dutch and Naph-Sol Refining Company at Muskegon, Imperial at Grand Rapids and Mid-West at Alma, now operate about 100 percent on Southwestern Michigan crude oil. From 10 to 15 percent of the crude finds its way into the Detroit area, mostly for asphalt manufacture.

Geology Confusing

Despite the fact that the shallow drilling play has now been under way better than two years, the geological picture continues to be characterized with no little uncertainty and numerous question marks. A known controlling factor is the marked southwest-northeast warp which runs through Van Buren, Allegan and Kent counties, as well as the southeast-northwest trend which is more pronounced in the Basin. Sharp dips and rises have been found to prevail through the district, and even core drilling on the Marshall or other shallow beds cannot be used with any degree of certainty.

Porosity is a highly important factor and causes, even in producing areas, numerous noncommercial wells located on structure.

Several small pools in Southwestern Michigan have been opened this year but no large fields have been discovered in the state.

Only two districts are active in the Basin, Temple in Clare County and Wise in Isabella County. As of June 20, operations for the state were as follows:

	Total (Rigs & Dr.)	Wildcats
Southwest Michigan	175	51
Rest of state	63	18

Lease Play Spreads

There is little lease activity in the Basin, most activity being concentrated on the west side of the state. Companies are taking up big spreads through Kalamazoo, St. Joe, Calhoun and Branch counties. Prices for wildcat acreage range from 50 cents to $1 per acre, usually with not more than 2-year leases written. Many small operators take leases on 3 months free rental with 30- to 60-day drilling commitments.

Prices for acreage are less than they were in the Basin at parallel points of activity. Wildcat acreage in the Basin usually brought from $1 to $3 per acre, and "turned" around a drilling wildcat for from $3 to $10. On the other hand, back in 1927-28 thousands of acres were taken in the Basin for 25 cents and on 10-year leases. Most Southwestern Michigan landowners attempt to get immediate drilling commitments and a maximum of a year for a lease.

The outlook for the remainder of 1939 and for the next 2 years points to a concentration of activity in the southwestern and western part of the state. Many companies have moved their headquarters and personnel to Grand Rapids, Kalamazoo and Holland. The shift in 1928 from Muskegon, first big play in the state, to Mt. Pleasant and Saginaw, which brought a 10-year period of intense Basin development, now appears in reverse with a shift back to the west side.

Drilling Essential

Comparative cheapness of wildcatting for shallow production and the fact that low dry holes apparently condemn no big area will continue to encourage almost unlimited wildcatting. State Geological Survey officials anticipate that Southwestern Michigan will not be given up until it is "bored like a sieve." Petroleum geologists see no reason that the shallow area cannot contribute numerous new pools.

Deeper Possibilities Good

Also, there is a strong recognized possibility that deeper formations may produce in Southwestern Michigan. The Sylvania and Trenton, as shallow as 1500 to 2500 feet in many areas, are regarded as potentially productive formations. Oil and gas shows were logged on at least 4 of 6 so-called deep tests in Southwestern Michigan the past 12 months.

The current play can well prove the forerunner of eventually drilling deeper horizons in the Basin. If the Sylvania, Trenton or St. Peters is brought into production where the beds are comparatively shallow, companies with acreage in the Basin would be encouraged to extend deep drilling programs.

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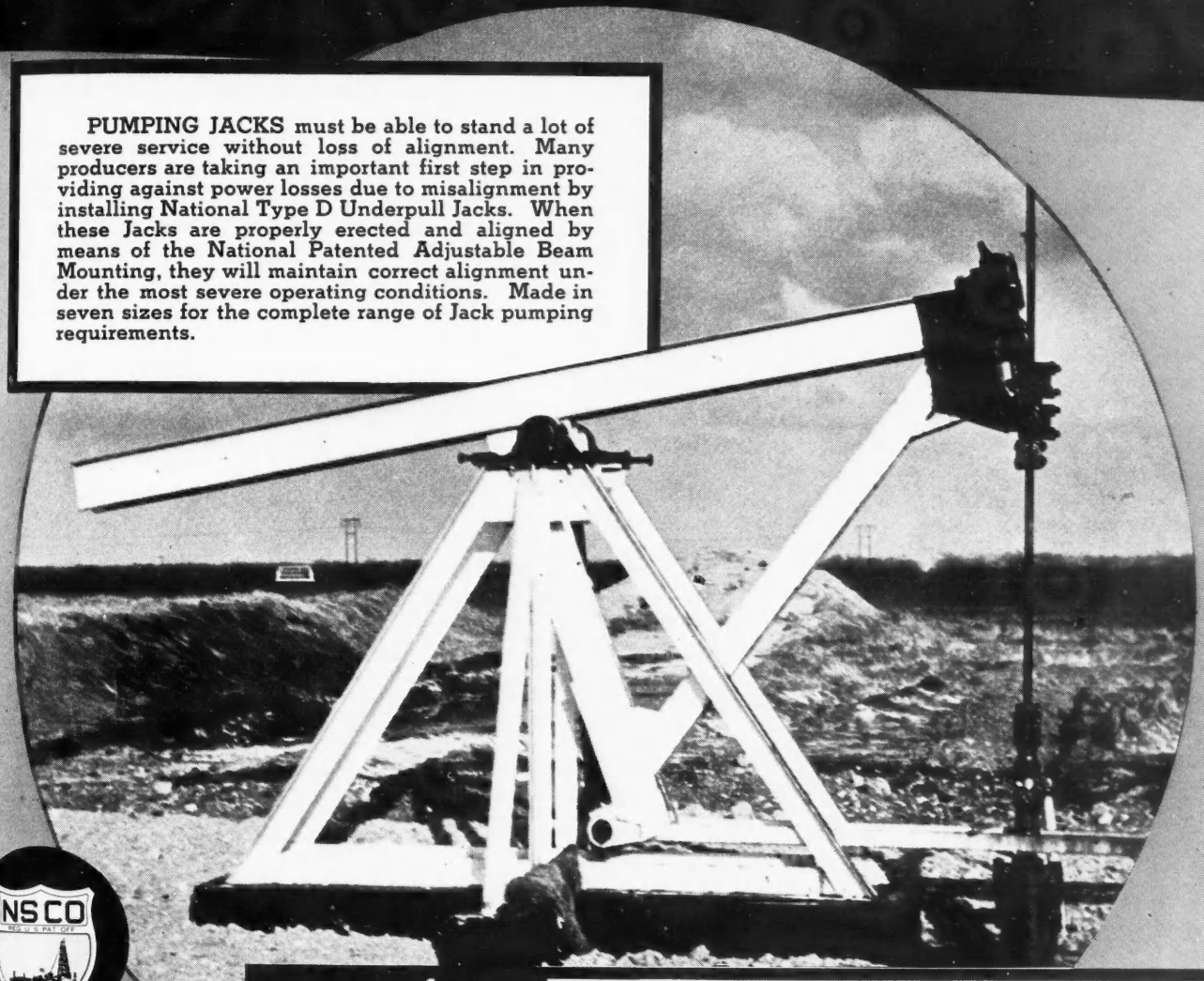

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*Longer stroke may be taken with proper attention to expansion and contraction in rod lines.

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Sampling Petroleum Hydrocarbons

By R. L. HUNTINGTON,
School of Chemical Engineering, University of Oklahoma

THE importance of the proper sampling of petroleum hydrocarbons (both liquids and gases) is being realized by the more progressive laboratories today. No matter how accurate and painstaking the analytical work in the laboratory may be, such determinations are meaningless unless the samples themselves are representative of the materials in the flow streams or vessels from which they are taken.

In this, the first of two articles on sampling, the art of sampling gases and liquids at low pressures is discussed. Precautionary measures in shipping the samples and in transferring them into the laboratory apparatus are also mentioned.

In the second article, the technique of obtaining samples under high pressures is described. The problem of obtaining a representative sample from a pipe line stream containing both liquid and gas remains unsolved, unless the stream is flowed through a separator and the gas and liquid phases measured quantitatively. A number of other essential details are to be observed in getting the sample all the way from the field to the laboratory distillation column in order to secure the accurate determination of the composition of the fluid or fluids under investigation.

PART 1
Sampling Gases Under Low Pressure

THE accuracy of the determination of the composition of a liquid or a gas consisting of a mixture of hydrocarbons is generally thought of in terms of the skill of the laboratory analyst. It is not the purpose of this paper to minimize the importance of the analytical laboratory, however the author wishes to point out the absolute folly of carrying on careful work in the laboratory unless it can depend upon the proper sampling of the stream or batch of material under investigation. In other words the analytical results are of no value to the engineer unless they represent the average composition over a definite period of time in the case of a continuous process, or a portion of a truly homogeneous mixture in the analysis of a large batch of stored liquid hydrocarbons. A number of the major companies are making an effort to improve upon sampling practice by either sending out mobile laboratories into outlying districts or by having the technical man go to the field to obtain the samples. In the absence of the engineer in the field, a set of clear cut written instructions may serve fairly well as a means of assuring proper sampling.

Samples from Steady State Flow Streams

Although most of the producing oil and gas wells, refineries and natural gasoline plants operate continuously under fairly steady conditions, wide variations are apt to occur at any time due to such changes as atmospheric temperatures, etc. For example the gas volume which a pumping well produces may vary as much as a thousand percent and the gasoline content by several hundred percent if the well is operated only a few hours each day. The gasoline content of gas which is evolved from crude oil in surface flow lines may increase markedly during the heat of a summer day. Cooler water and absorption oil temperatures in a natural gasoline plant may reduce the gasoline content of a residue gas to a small fraction of the content prevailing before a rainstorm brings about these temperature changes.

In obtaining a representative or average sample, it is necessary that the gas displace the water from the sample container at a slow continuous rate over the period being studied. Without some kind of a regulating device, this method is not feasible. As an alternative, a satisfactory sample can be secured by displacing small equal increments or slugs of water at regular hourly intervals during the day and night. From the laws of chance, such a sample will be substantially the same

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   True_____ False_____

5. A Baker Kelly Straightener cannot be used to straighten drill pipe.

   True_____ False_____

6. It is impossible to remove bridges with a Baker Cement Wash-Down Whirler Shoe.

   True_____ False_____

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4. True - the blades are hydraulically expanded as shown on Page 254.
5. False - drill pipe is easily straightened by the method described on Page 272.
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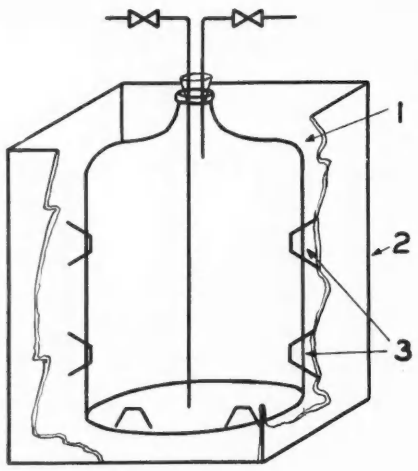


FIGURE 1 (left)

Five-gallon glass bottle for gas sample

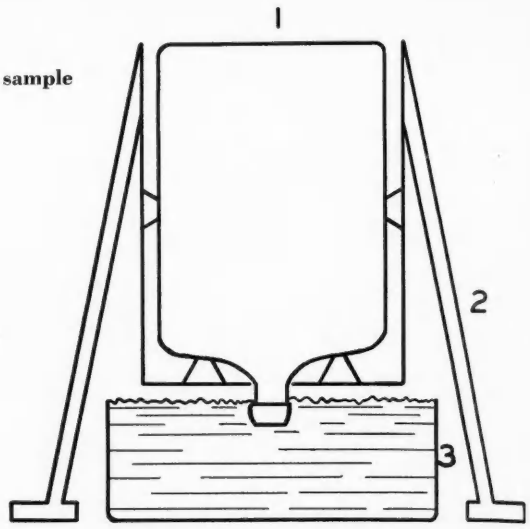
1. Glass bottle.
2. Wooden frame.
3. Rubber grips.

●

FIGURE 2 (right)

Framework for inverting container over water.

1. Glass bottle.
2. Frame.
3. Water vessel.



as one which is secured by continuous displacement. Liquid sampling is much simpler since oil or gasoline production can be stored over a twenty-four-hour period with no likelihood of appreciable stratification.

Liquids or Gases Under Atmospheric Pressure or Vacuum

Sampling of hydrocarbons under low pressures is comparatively simple, however certain safeguards should not be overlooked. Whenever the water vapor content of a gas stream is not desired, the sample can be most easily obtained by filling a glass container with water (see Figure 1), then forcing the major portion of the water out of the container through glass tubing reaching to the bottom of the bottle. As soon as the bottle is filled with gas the pinch clamps can be closed and the bottle placed in a wooden crate equipped with rubber snubbers to hold the bottle securely in place and to reduce the chances of breakage through shock.

In order to eliminate likelihood of air infiltration through the pinch clamps and rubber tubing, it is considered better practice to invert the sample bottle in a vessel of water (see Figure 2). As soon as the bottle is filled with gas the two-hole stopper device must be removed and a solid cork inserted while the neck of the sample container is still under water. Further protection from air infiltration should be provided immediately by covering the cork with sealing wax.

When the sample reaches the laboratory, it is of course necessary to replace the solid stopper with a two-hole stopper delivery device by inverting the bottle neck under water again. The solubility of the gas in the water can be reduced appreciably by adding some soluble salt such as

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General View of Petroleum and Chemical Engineering Laboratories, University of Oklahoma.

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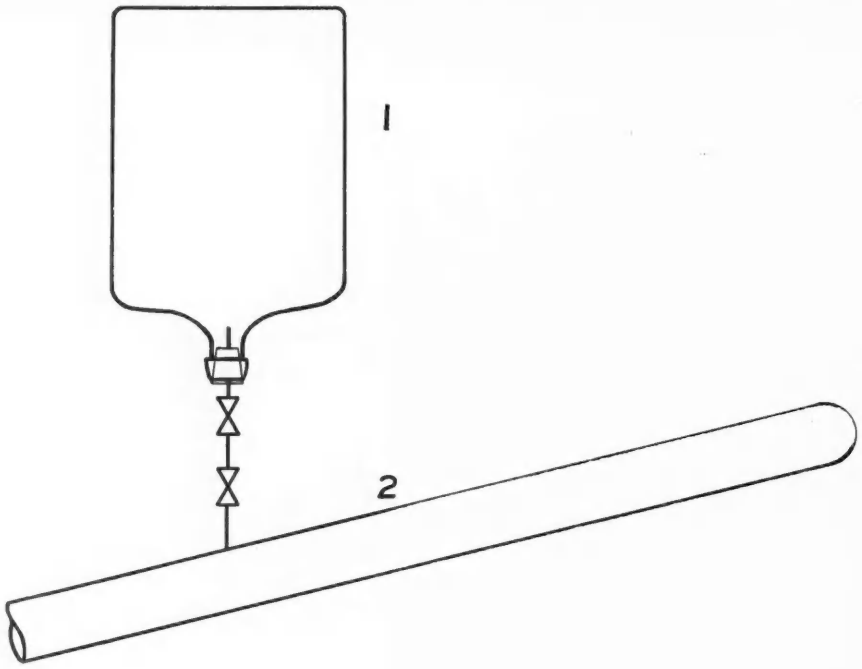


FIGURE 3

Arrangement for taking sample from gas line under vacuum.

1. Glass bottle.
2. Gas line.

sodium sulphate to the water. Since some hydrocarbons are more soluble in water than others, this precaution may prevent a possible change in the composition of the gas sample.

In the event that the water vapor content of the gas is desired, a dry bottle can be purged with gas for several hours in order to remove the last traces of air. Upon reaching the laboratory however the sample of gas must be displaced by some liquid in which water vapor is practically insoluble. It may be transferred into a compressor, however such practice is inadvisable due to the possibility of condensation, or contamination in the compressor from lubricating oil.

Sulphur Compounds

If an accurate determination of sulphides, mercaptans and other sulphur compounds in a gas is to be made, analysis in the field will simplify matters considerably. In shipping such a sample to a central laboratory, the gas must be collected in a dry glass bottle and stoppered with a cork well covered with sealing wax on both ends. The transfer of the gas sample from the bottle when it reaches the central laboratory is complicated by the fact that the displacement of the gas with mercury or water may change its composition due to the selective solubility of the sulphur compounds in either displacement liquid. The slow rate of diffusion of a gas into a quiescent liquid however makes the appreciable change of composition of the gas sample unlikely as it is being displaced by water or mercury into the Orsat apparatus.

Sub-atmospheric Pressures

Gas samples may be taken from gas gathering systems which are under high vacuum by several methods. The reciprocating compressor or vacuum pump on a portable physical test car provides the easiest means of obtaining such a sample, however contamination or removal of some of the heavier hydrocarbons in the gas due to condensation may result. A hand pump may eliminate the danger of contamination from lubricating oil however partial condensation of a gas very rich in gasoline content is always possible. No doubt the most representative sample can be secured by inverting a water filled bottle (Figure 3) over the gas line which is under vacuum, allowing the gas to displace the water as it gravitates from the bottle into the gas line. When such a sample reaches the laboratory it would be well to heat the sample well above the temperature at which it was collected in order to preclude any chance of partial condensation as the sample is transferred into the fractionating column. If fractionation of the sample is to be made at atmospheric pressure, the admixture of a known quantity of diluent gas such as air or nitrogen might serve as a means of keeping the heavier hydrocarbons from partially condensing on their way from the sample container to the true boiling point apparatus. Such dilution with an inert gas is recommended only as a last resort in an effort to prevent partial condensation.

Several general rules might be added in connection with gas sampling.

(1) A true gas sample cannot be obtained from any stream in which condensation is taking place, since the content of the gas must necessarily be changing.

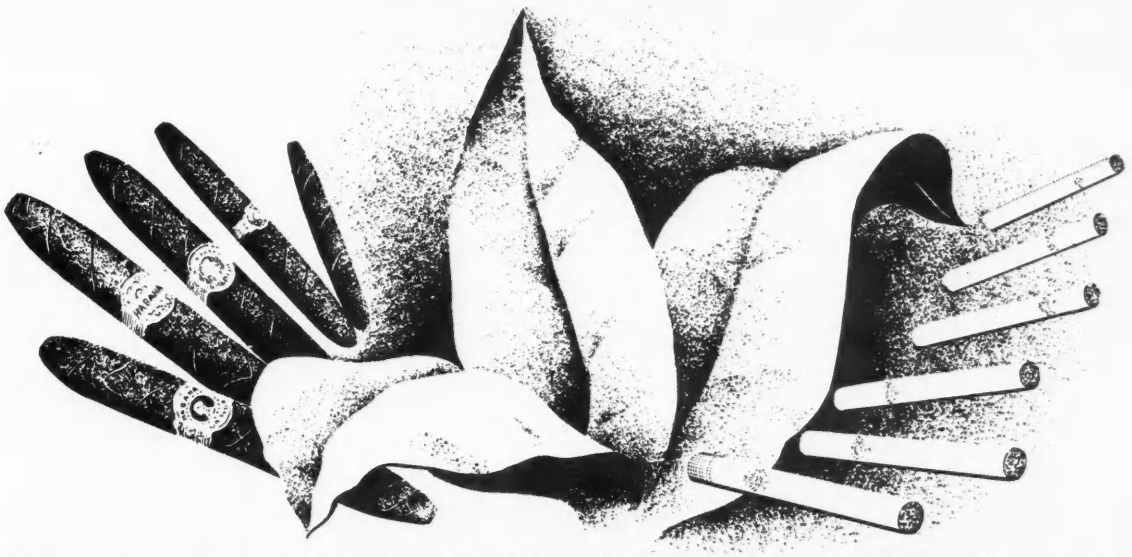
(2) A vapor sample which is in equilibrium with a liquid can be secured from a separator provided entrainment is eliminated. This entrainment or carrying of liquid droplets can best be prevented by passing the gas sample through a small glass wool scrubber, since glass wool is readily wetted by the smallest particles of liquid mist or droplets.

(3) Iron or metal containers are not as good as glass since sulphur compounds in the gas are apt to form metallic sulphides, thereby lowering the sulphur content of a gas high in sulphur or contaminating a sweet gas by the release of absorbed sulphur compounds from the walls of a vessel which has previously contained sour gas.

(4) A gas sample should be sufficient in volume to yield from 5 to 10 cubic centimeters of liquefied butanes and heavier hydrocarbons should the natural gasoline content of the gas be desired. This quantity of liquid will provide ample reflux for the average laboratory true boiling point fractionating column.

(5) The sample should be properly labeled to meet the safety regulations pertaining to volatile inflammable goods. The container should be identified by a linen tag with penciled markings which will be unaffected by rain or any other atmospheric elements. A letter of transmittal is usually mailed at the time of shipment telling the location, date, temperature, pressure and any other pertinent data relating to the hydrocarbons being sampled.

(The second of this series will appear in an early issue.)



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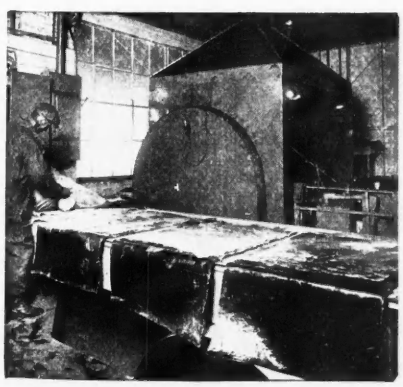

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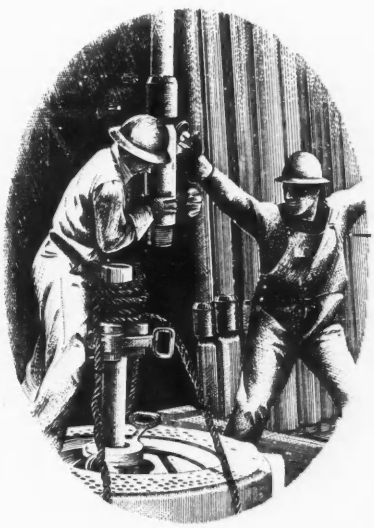

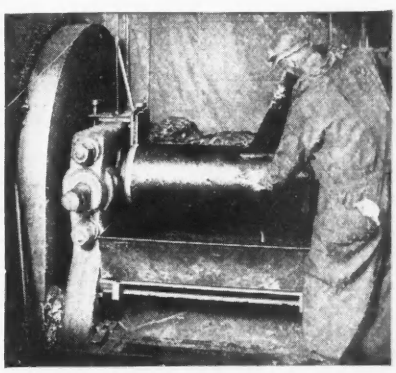

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The Future of the Interstate Oil Compact

By E. G. DAHLGREN

Creation of joint state and federal agency to fix state allowables recommended by former proration official

THE recent report of the National Resources Committee, stressing the need of a Federal Conservation Board with power to establish minimum standards for the production of oil moving into interstate commerce, has created widespread interest in oil producing states as to the future course of the Interstate Oil Compact Commission.

The National Resources Committee report, which is definitely one of the most important documents affecting the oil industry that has come out of Washington since the National Recovery Act, is a real challenge to the existence and purposes of the Oil Compact.

Nearly everyone in the oil industry is familiar with the history of the Compact and the forces that motivated the creation of it. Through the medium of the press and the speeches of Col. Ernest Thompson, and others, the industry is well acquainted with the accomplishments of the Compact. But little has been said or printed about the weaknesses of the Compact.

What Are the Weaknesses of the Compact?

The Compact's chief weakness is the fact that only six of the 21 oil producing states have joined the Compact. How can a compact function when such individualistic states as California, Louisiana, and Illinois pay little or no attention to the purposes of the Compact?

Illinois, one of the Compact's charter members, continues to ignore the basic principle of the Compact—conservation of oil resources—as its production continues to flood the rich Great Lakes market area with a present production peak of nearly 215,000 barrels daily. The Illinois production has been in excess of market demand as shown by a 15% increase in crude oil storage during 1938. Illinois has no adequate conservation law which she was obligated to enact under the provisions of the Compact.

The Compact Commission has pointed to the Bureau of Mines monthly recommendations as an unofficial guide to proration allowables, but today several states exceed the bureau's estimate in the latest weekly production figures. Criticism has been heaped upon the Compacting states for their failure to adhere to the bureau's estimate. It is true that certain states such as Kansas and New Mexico need additional market outlet to take care of increased development and proper depletion of reserves. Crude oil purchasing companies have chosen to secure additional supplies of oil adjacent to present facilities rather than to expend huge sums of money in extending gathering systems and pipe lines.

As yet the Compact is not accomplishing in full its great opportunity for the development of model conservation laws, research on conservation methods, cooperation between states in checking gasoline tax evasion, the elimination of the "Rule of Capture," and the promotion of the "Ownership in Place" theory of proration.

Some work was done on these things in the early days of Compact when several committees functioned as the Conservation, Consumption, Coordination of Police Powers, and Imports and Exports Committees. The Subcommittee on Conservation, composed of Marvin Lee of Kansas, chairman; C. C. Brown of Oklahoma; and Dr. E. H. Wells of New Mexico did an excellent piece of work in compiling conservation laws of the various oil producing states, but the work of this Committee went for naught when no action was taken by the Compact to publish the compilation.

If the work of this Subcommittee had been expanded, much could have been accomplished in the standardization of rules and regulations in the various oil producing states.

For example, let us compare Oklahoma and Kansas, two oil states which the writer has served in a regulatory capacity in the past eight years.

In Oklahoma an oil operator is required to file notification of intent to drill with a bond to insure proper plugging in the event of an abandoned hole, or the bond is waived if the operator has production within the state. In Kansas an operator is not required to file notice or to make a bond. Most of the plugging agents in Kansas are paid for their work on a fee basis with the operator paying a plugging fee, while plugging agents in Oklahoma are paid a monthly salary with field expenses with no fee charged to the operator.

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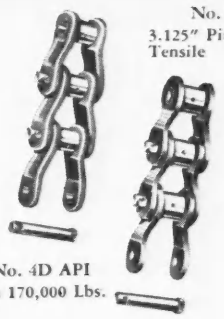

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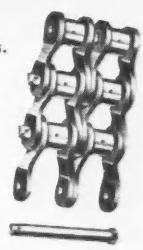

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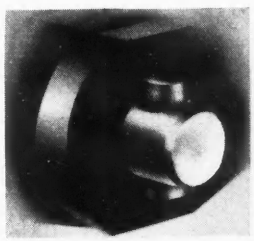

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homa has regulated well spacing to good advantage, while Kansas did not receive any adequate well spacing legislation until the proration law was revised recently. As yet no rules and regulations have been prepared to enforce this law.

New pool discoveries are encouraged in Oklahoma with a discovery allowable of 15,000 barrels prior to the completion of the second well in the pool and a flat allowable thereafter of 125 barrels daily as a Class D pool, while an independent operator in Kansas is fortunate in receiving a daily allowable above 25 barrels, the average allowable in prorated areas. The classic example showing contrast between Oklahoma and Kansas allowables is the Caldwell pool, which straddles the state line. Up until a year ago the Oklahoma side of the pool was unprorated, while the Kansas portion was under stringent proration.

Many pools in Oklahoma operate on a flat allowable and high minimum allowables which preclude potential taking, while Kansas pools are generally restricted to potential test taking on all wells. Pumping wells in Kansas are restricted to the use of a 54-inch stroke and 3-inch working barrel. No restrictions are made on equipment in Oklahoma.

The allocation system between pools varies greatly between Oklahoma and Kansas. In Oklahoma the operators generally reach an agreement on pool allowables in an open meeting conducted by the conservation department prior to the monthly allowable hearing, while Kansas has generally agreed to a mathematical distribution of allowables which generally fits the program of the oil purchasers. However, pool allowables to a limited extent have been in existence for over a year.

Texas, New Mexico, Arkansas, and Louisiana differ widely in their oil and gas regulations, while California handles its curtailment program on a voluntary basis, which is difficult to operate.

The Compact Commission has failed to enlist the vigorous support of the oil industry in that the rank and file have not been educated to the benefits of the Compact. Too much emphasis has been given to political elements when sufficient pressure could have been applied to legislators who are responsible to their constituents for enacting proper laws for the protection of our natural resources.

The recent speech made by Judge Earl Foster, attorney for the Conservation Department of the Oklahoma Corporation Commission, at the Mid-Continent District meeting of the American Petroleum Institute at Oklahoma City stressed the need of cooperation by the men in the A.P.I. to enhance the success of the Compact. Organizations such as the American Petroleum Institute, Independent Petroleum Association of America, the American Association of Petroleum Geologists, the American Institute of Mining and Metallurgical Engineers, the National Petroleum Association, Mid-Continent Oil & Gas Association, and other groups should give active support to the Compact in educating the various state legislative bodies to the Compact benefits.

Many in the refining industry feel that the Compact has been harmful in the fact that refineries located in non-member and non-oil producing states have been able to operate plants to the detriment of refiners in states who are members of the Compact. The small independent refiner is still in distress.

The decline in profits in the oil industry in 1938 refutes the claim that the Compact has improved the financial status of the industry. Various weaknesses in the industry existing in October, 1938, caused the break in crude oil prices.

What Can Be Done to Protect the Existence of the Compact?

First, the adoption of a plan similar in character to the proposal for a comprehensive Interstate Oil Compact which was prepared by Judge E. R. Sloan, former chairman of the Kansas State Corporation Commission. This proposal advocated the creation of a joint state and federal fact-finding agency to determine periodically the demand for petroleum and its products to be imported, for withdrawal from storage and for domestic production, and determine the allowable production in each oil-producing state. This body would determine the minimum and maximum amounts each state should produce to prevent waste.

The necessity for a federal representative in this plan is to find the demand for imports and to make available the use of federal fact-finding agencies such as the Bureau of Mines, Geological Survey, the Petroleum Conservation Division, the Department of Commerce, the Department of Labor, etc.

This proposed commission would be a fact-finding body without administrative or regulatory authority, but an agreement must be provided to make the findings binding upon the Compacting states. The means of enforcing the findings would be left entirely in the regulatory bodies of compacting states.

A technical staff, free from political influences should be organized within the Compact to coordinate the work done by the various regulatory bodies. This staff should be composed of competent petroleum economists, petroleum engineers, geologists, oil and gas attorneys, statisticians, practical oil men, and others who have had specialized experience beneficial to the Compact.

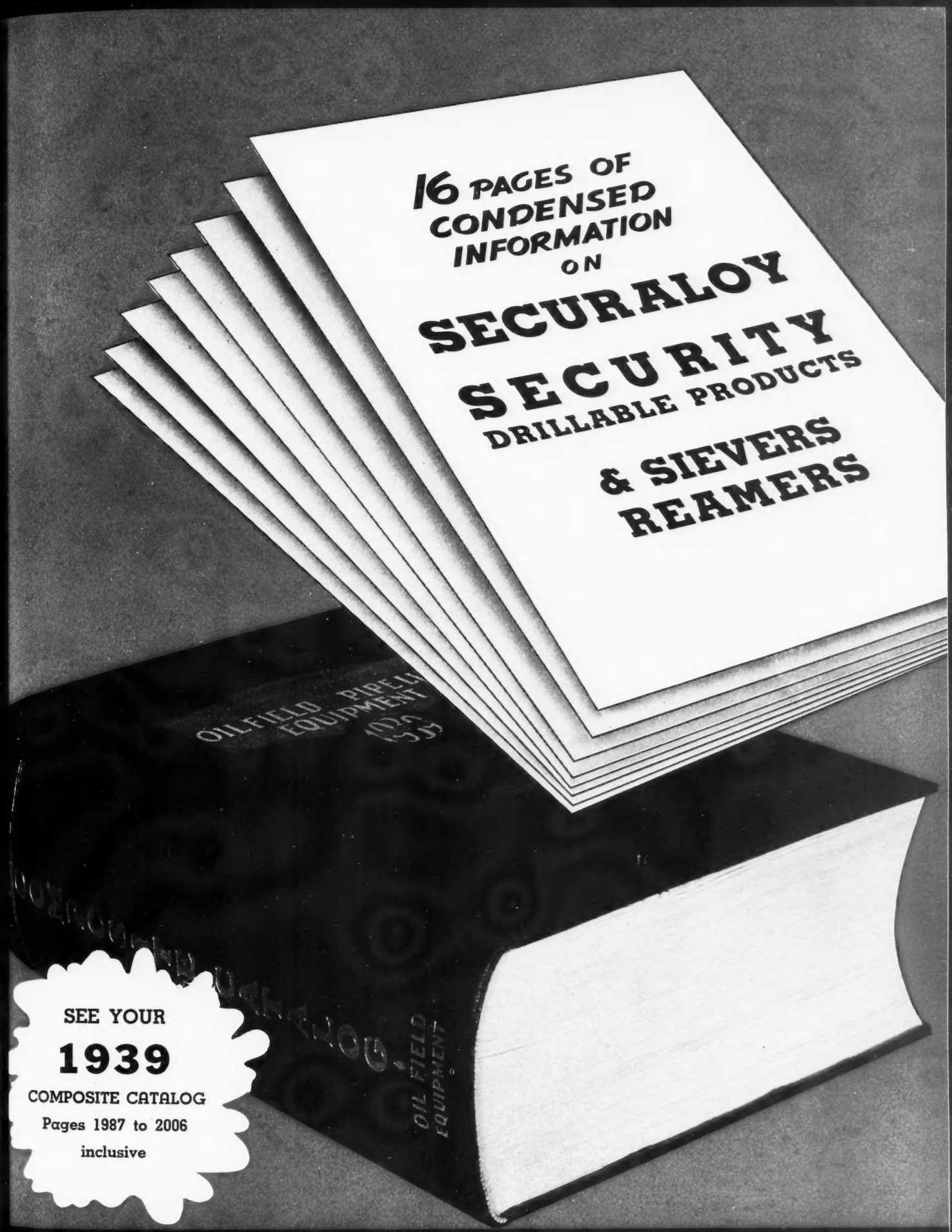
The first duty of the technical staff would be the standardization of the rules and regulations governing the production of oil in the phases of well spacing, potential taking, allowables, etc. A two weeks session on these matters with representatives from every oil producing state would accomplish much. The Oil Compact is the proper clearing house in these matters.

Revenue for the Compact can be provided in a manner similar to Oklahoma's plan, which provides for the maintenance of the Oklahoma Compact organization by a levy of one-eighth of the tax received by the Oil & Gas Conservation Department of the Oklahoma Corporation Commission.

Opposition to this plan will be encountered in certain oil producing states on account of fear of curtailment of production, but in these days when national defense is a paramount issue, it behooves all us to forget our selfish interests in order to work together for the betterment of our industry and to keep ourselves free to exercise private initiative.

In my opinion little can be done for the refiner in the Compact. Many believe the work done by the Refinery Allocation Committees under the Petroleum Code should be revived under some federal authority in order to stabilize the refining industry.

The Interstate Oil Compact Commission can very easily accept the challenge of the National Resources Committee if we will all work together in cooperation and coordinate our state regulatory activities.



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Pumping Series Article No. 13

East Texas Expected to Go on Pump at Increased Rate

By BRAD MILLS, Associate Editor

AFTER producing 1,370,000,000 barrels of oil in only 8¾ years, an amount that exceeds the lifetime quantity recovered from any field with the exception of Baku, Russia, the East Texas field today is still predominantly a flowing pool. With but 6600 wells now actually dependent upon artificial means for recovering their daily quota of oil, nearly 75 percent of the 26,000 producing wells that tap the prolific Woodbine sand are flowing. Truly, a remarkable accomplishment but eventually it will surely become the largest concentrated pumping area known to date.

Whether lifting equipment be installed at a faster rate than in the past is a question of prime importance, not only to operators in the field itself but to other areas of the United States as well, for as long as East Texas can produce a much larger volume of oil by simply opening the valve a little wider it will remain the most important national production market factor in existence.

Already the field's flowing life has been much longer and more uniform than predicted shortly after its discovery, due largely to the limitation of production to quantities that conserved the reservoir energy. Today there are several conditions in existence that indicate its rate of "going on the pump" should be faster than in the past.

In the first place, the average bottom-hole pressure has declined to a point where a wide margin no longer exists over that level at which East Texas wells will continue flowing naturally. There are many wells in the field today that have only a narrow margin of flowing energy, estimated at anywhere from 1000 to 2000, with probably 200 of them to need lifting equipment in the very near future.

In the second place, the field is producing a growing volume of water. The quarterly survey of water production by the Texas Railroad Commission showed that in April of this year (latest report available) a new peak of 132,858 barrels was being produced daily, and that 245 additional wells started making water during the three month period. Other sources indicate a sharp increase in water wells and volume since above date. Naturally, wells making water require higher bottom-hole pressures if they are to flow, and therefore go on the pump sooner than those not making water. This report credited 4266 wells with producing some quantity of water. Water encroachment should become both more general and larger in volume.

The rate at which wells in the East Texas field will cease flowing will depend, of course, upon the volume of oil the pool is permitted to produce daily. As has been demonstrated time and time again, bottom-hole pressures maintain a trend in line with the quantity of oil removed from the reservoir. Some interesting figures are presented in Table 1, which show that in practically every instance the output of the field was increased it was accompanied by a bottom-hole pressure decline, and that when the daily volume produced was decreased the pressure drop was much smaller and sometimes actually gained.

Therefore, the probable rate of production becomes a most important consideration. No one knows just how much East Texas will be permitted to produce six months or a year from now, but it seems fairly certain that production will not be curtailed further than at present. And, there are possibilities that its allowable may be increased.

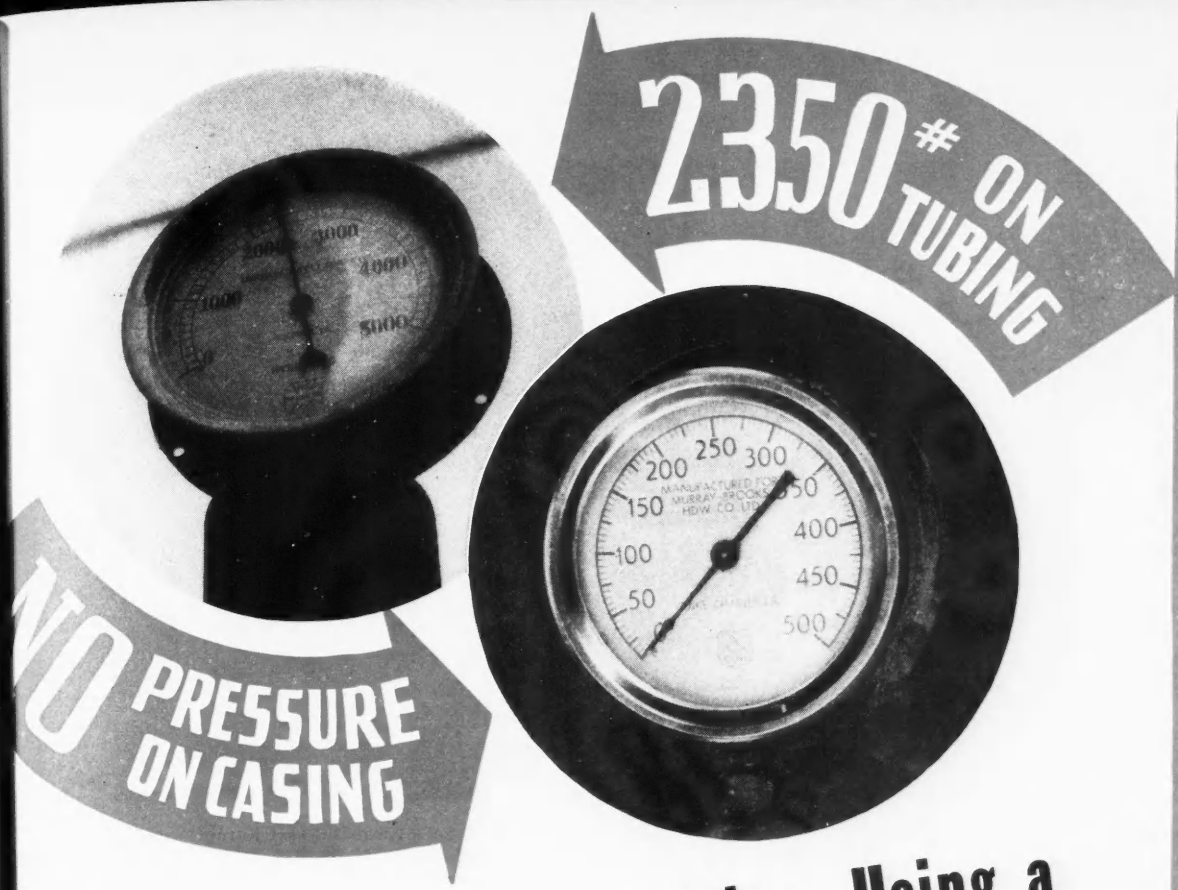
For example, a recent federal court decision in the Rowan & Nichols Oil Company suit held the method of applying proration in East Texas invalid because it considered only the number of wells and gave no consideration to acre-

TABLE 1

East Texas Bottom-Hole Pressure Data

(Figures from Texas Railroad Commission)

DATE	Average Bottom Hole Pressure (Pounds)	Pressure Change During Period (Pounds)	Daily Average Production in Period (Barrels)	Production Change During Period (Barrels)
1-12-1937	1176.47	.....	.....	.....
4-12-1937	1167.61	— 8.86	455,171	.....
7-12-1937	1155.06	—12.55	465,221	+10,050
10-12-1937	1118.56	—36.50	478,365	+13,144
1- 7-1938	1119.08	+ 0.52	471,824	— 6,541
4- 8-1938	1118.26	— 0.82	432,478	—39,346
7- 8-1938	1125.45	+ 7.19	393,552	—38,926
10- 8-1938	1106.70	—18.75	404,130	+10,578
1-8-1939	1106.78	+ 0.08	383,093	—21,037
4-8-1939	1100.79	— 5.99	379,764	— 3,329
6-8-1939	1085.08	—15.71	426,174	+46,410



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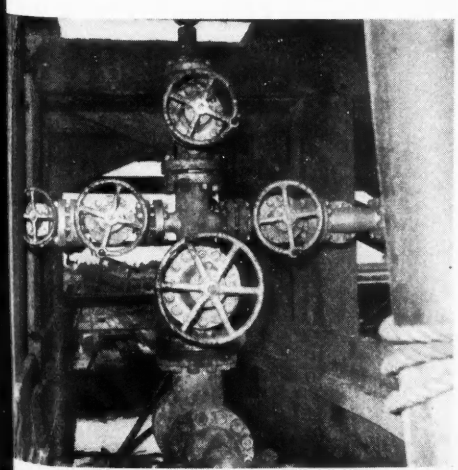
Operators who are confronted with the problem of control and safe completion of high-pressure wells are invited to write for full particulars on the Cameron Type "G" Circulating Anchor Packer, Bottom Hole Chokes, and other proven specialties.



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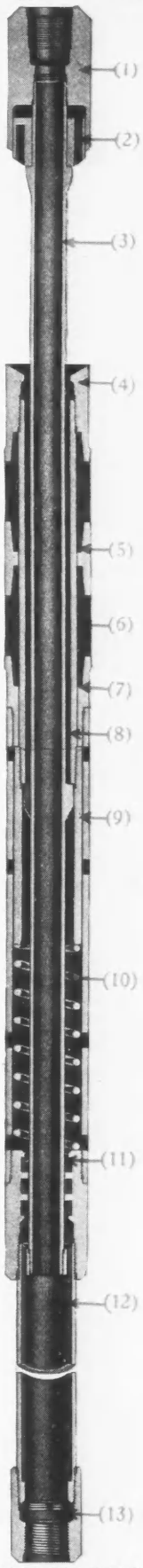

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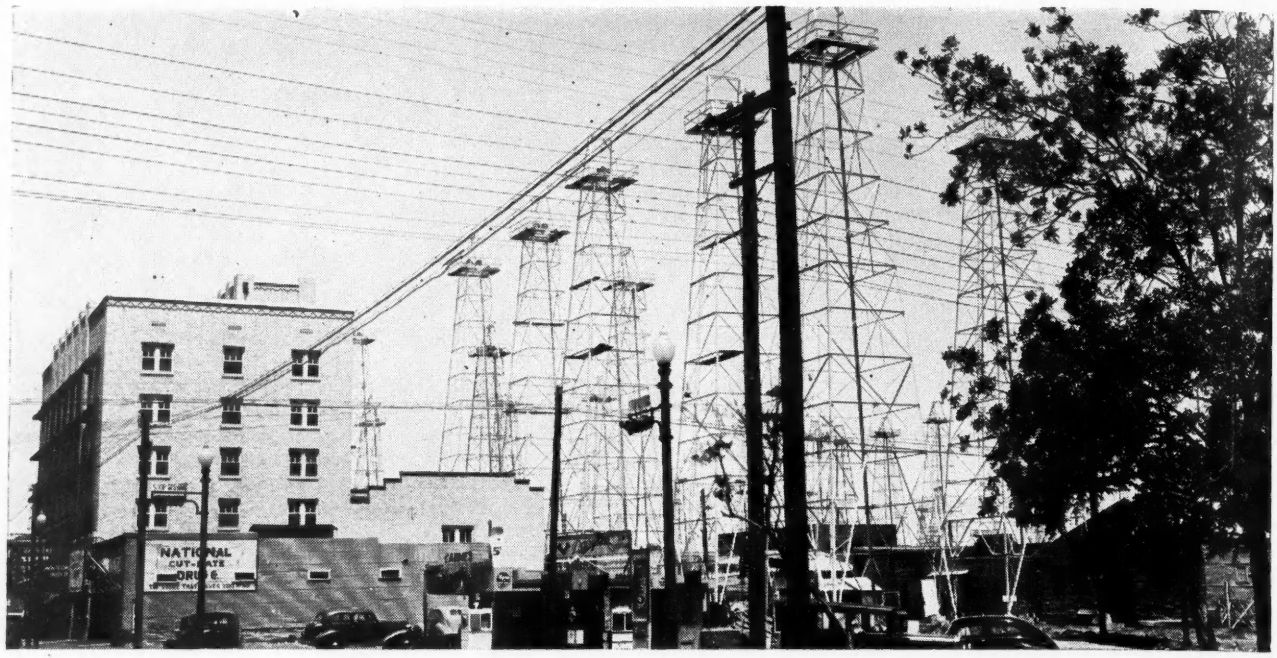
(7) Packer Retainer
(8) Mandrel
(9) Lower Sleeve
(10) Spring
(11) Seal Rings
(12) Drive Nipple
(13) Reducing Coupling



More than a dozen wells have been completed in this small section of the Kilgore townsite, and pumping operations are widespread. Other parts of the city are even more closely drilled.

age and oil in place. This ruling makes an increased output for East Texas probable, and already six concerns have petitioned the Railroad Commission for higher allowables from their wells on leases that have not been drilled as densely as the field's average of 5.13 acres a well. Pending final court decision no change in the proration method is anticipated, and petitions for higher allowables have been denied. Since it is generally accepted that Texas' marginal well prohibits the proration of pumping wells below 20 barrels daily for wells of East Texas depth, apparently the only method (unless additional shutdown days are adopted, or the marginal well law is changed) open for the Railroad Commission to comply with the court's ruling, should it be upheld in higher circles, is to give larger allowables to wells not as closely drilled as the field's average. Such action would, naturally, result in a larger daily output from the field and would cause a quicker decrease in bottom-hole pressures which in turn would place wells on the pump at a more rapid rate.

The abandonment of uneconomic producing wells, which should increase in the future, is another factor that may permit higher allowables for remaining wells in the field. However, such a development on a broad scale appears to lie a good distance in the future, although 203 former producing wells were plugged and abandoned during 1938. Since there will be far fewer new completions in the field than at any time in its past history, such a rate of abandonment may become important.

Whatever the future course of bottom-hole pressures, there is one condition that may be stated definitely with respect to the lifting trend in East Texas. The number of flowing wells in the field hereafter is certain to decrease. Up until the first of 1939, the number of flowing wells in the field continued to increase as new completions swelled the total number of wells on the structure. However, the drilling campaign apparently has been completed. On January 1, 1939, there were 19,696 flowing wells in the field. They had decreased to 19,430 on July 1, 1939. Meanwhile, the number of wells actually pumping increased from 5624 to 6000; consequently, the percentage of flowing wells declined from approximately 76 percent to 74½ percent. These, and other interesting lifting trends in East Texas, are set forth in Table 2.

These 19,000 flowing wells constitute more wells of this nature

TABLE 2

Trend Toward Artificial Lift in East Texas

DATE	Pumping Wells*	Pumping Well Increase During Period	Gas Lift Wells*	Wells Flowing	Total Wells Producing In Field	Percent Wells on Pump	Percent Well on Gas Lift	Percent Wells Flowing
October 1, 1937	4,317	....	430	18,975	23,722	18.2	01.8	80.0
January 1, 1938	4,930	613	448	18,992	24,370	20.2	01.8	78.0
April 1, 1938	5,159	229	464	19,193	24,816	20.8	01.9	77.3
July 1, 1938	5,465	306	506	19,431	25,402	21.5	02.0	76.5
October 1, 1938	5,573	108	520	19,624	25,717	21.7	02.0	76.3
January 1, 1939	5,624	51	603	19,696	25,923	21.8	02.3	75.9
April 1, 1939	5,786	162	590	19,634	26,010	22.2	02.3	75.5
July 1, 1939†	6,000	214	600	19,430	26,030	23.0	02.3	74.6

NOTE: 203 oil wells were plugged and abandoned in 1938, which probably were pumping at the time.
AUTHORITY: Texas Railroad Commission.
* Includes only wells actually operating pumps and gas lifts, and not those equipped but idle.
† Estimated by The OIL WEEKLY.

than in any entire state of the Union, and considerably in excess of half the flowing wells in the State of Texas. Being so heavily concentrated in one comparatively small area makes them even more noteworthy as the outstanding pumping equipment market known.

However, all the 19,430 wells will not require equipment, for approximately 3300 of them are at least partly equipped but not as yet using the installations. Therefore, a total of about 16,000 wells remain to be equipped completely. Wells are equipped for pumping in advance of actual need because the typical weak flowing well stops producing naturally on short notice, and nothing is so serious to operators as not being prepared to get their daily quota of oil.

The gradual increase in the number of East Texas pumping operations has been a more satisfactory development than a veritable collapse of bottom-hole pressure would have brought about. If the latter should have occurred, the demand for equipment would have been greater than supply concerns could have furnished.

During the last six months of 1937, bottom-hole pressures in the East Texas field decreased 48 pounds, one of the sharpest declines on record as daily production rose to around 470,000 barrels. There was a corresponding increase in number of wells pumping, during the last three months of the year 613 wells started pumping. During 1938, the bottom-hole pressure decreased but 15 pounds, and there was a marked reduction in the rate of wells going on the pump. This was particularly true during the latter part of the year, after those wells adversely affected by the pressure decline during the last part of 1937 had been equipped.

Pumping operations in East Texas have increased appreciably during the first six months of 1939, the recent bottom-hole pressure decline being the contributing factor. The last six months of 1938 saw a gain of but 159 pumping wells, while the first six months of this year have witnessed an increase of 374 pumping wells. Today, the 6000 wells on the pump constitute 23 percent of the wells in the field. An additional 600 wells, or 2.3 percent are on gas-lift.

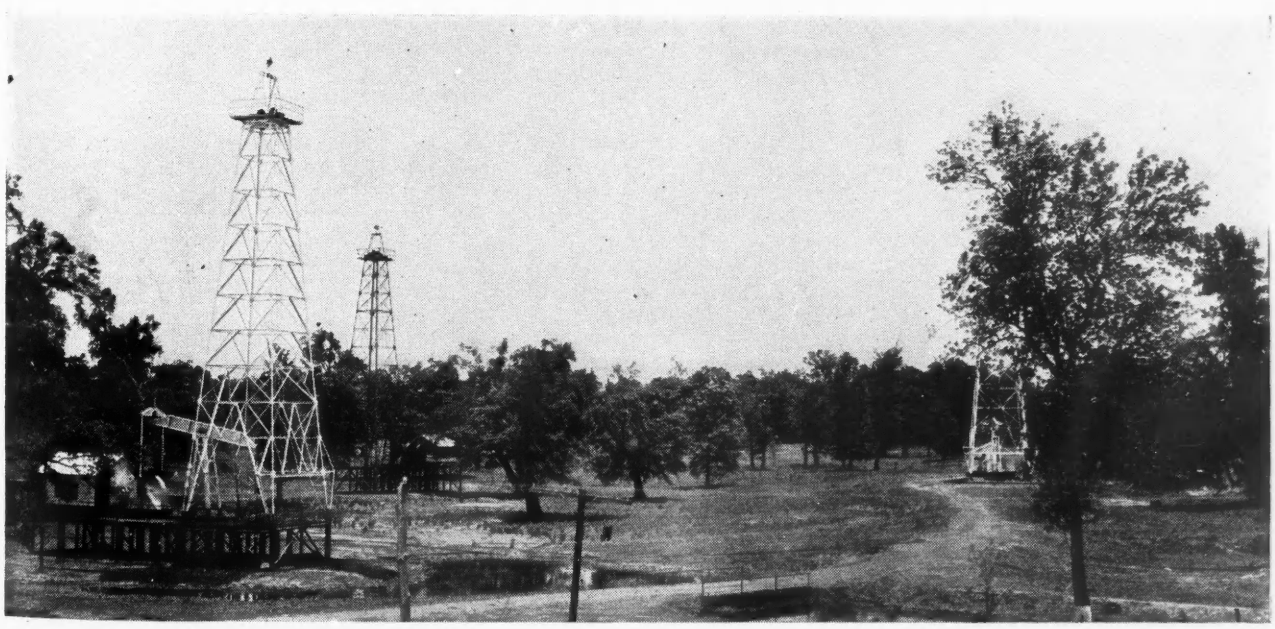
Due to the small daily well allowables in the field, weak flowing wells have been able to "hang on" five to ten times as long as they could have survived in fields not so rigidly prorated from a barrels-per-well standpoint, and where the formation was not benefited by having such a heavy water drive capable of replenishing the energy if production is retarded sufficiently.

A large number of wells are now flowing with low bottom-hole pressures because they are surrounded by immediate areas having more normal pressures. A further flattening out of field pressures would affect adversely these weak flowing wells, as they then would not be aided as greatly by neighboring producers.

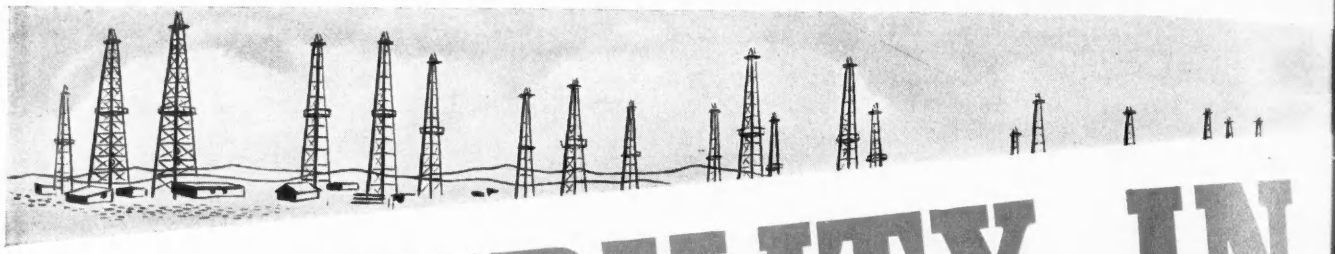
Many of the low pressure flowing wells are very sensitive. Slight leaks in the Christmas trees, increased water production, paraffin and other factors have thrown many wells on the pump. Some wells nearing the end of their flowing life may be killed with a few barrels of water, but they show little change from day to day.

Close spacing of wells in several areas of the field has been a contributing factor to increased pumping operations. In the Kilgore townlot sector and similar regions, wells have been spaced without regard to the amount of oil actually in place under the lease. Three, five or seven wells may be producing from any one of dozens of small lots or tracts that should not have more than one producing well. The drainage area of such wells is so limited that the payout appears doubtful.

With its bottom-hole pressure having more closely approached the level at which wells will cease to flow, and with some possibilities of the field being given higher per well allowables which would cause a sharper decline in formation pressures, there are indications that the rate of East Texas wells going on the pump should increase in the future. The field's 19,430 flowing wells, however, are not expected to suddenly require some form of lifting equipment, but to do so at a somewhat accelerated rate.



Individual geared pumping units along the Sabine River, near Gladewater and in the north end of the field.



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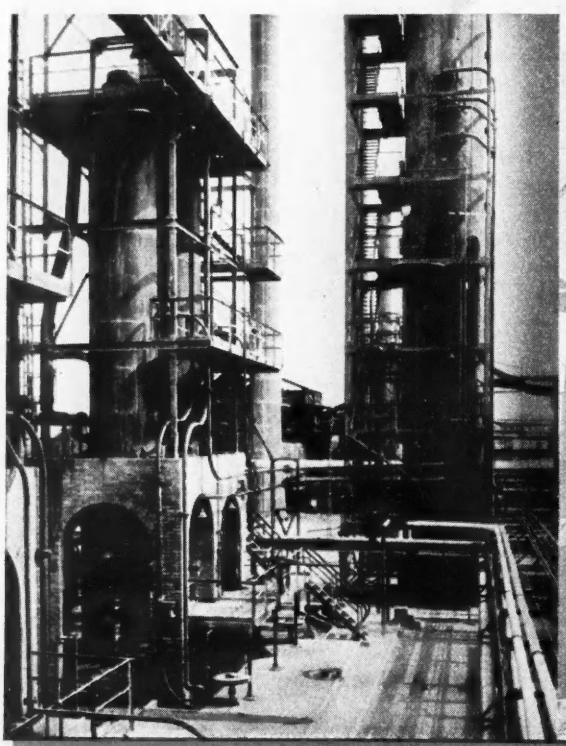

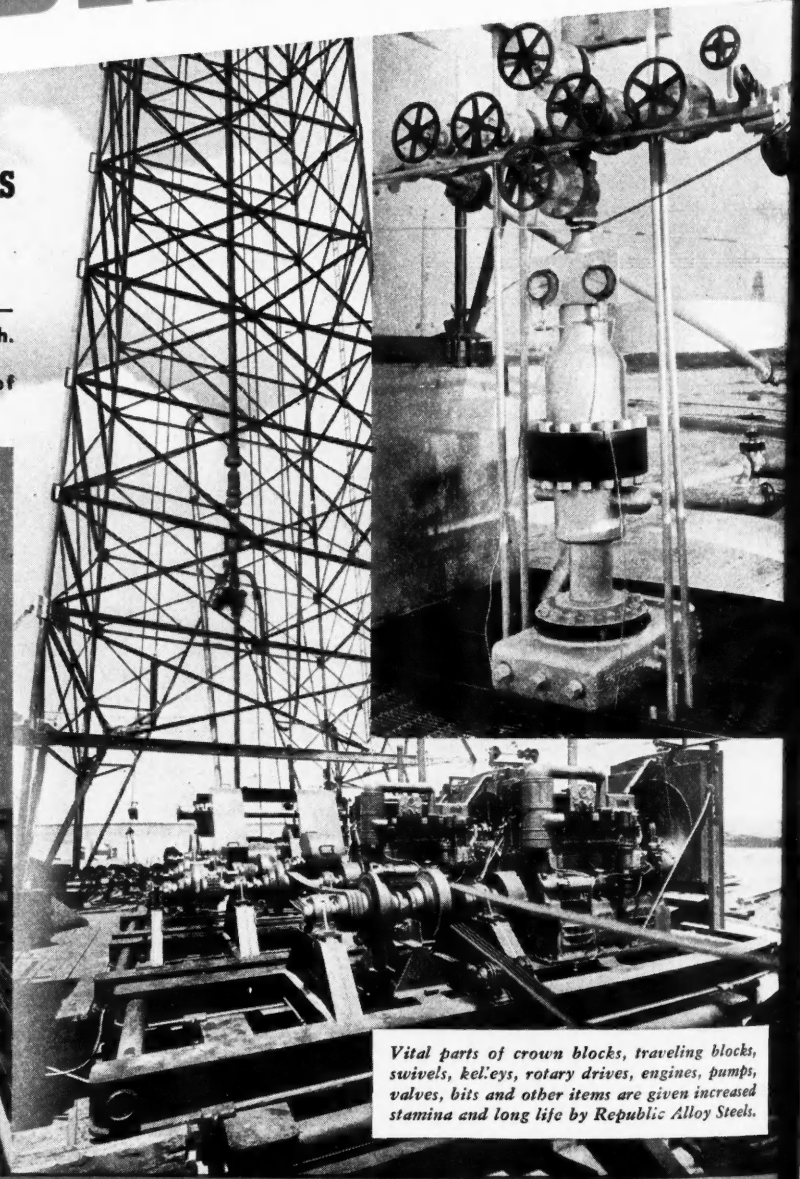

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Edited by
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Canadian Fields

Steveville to be tested by Standard of California.

Drilling planned for Turner Valley north extension.

Standard Oil Company of California last week announced its first well for Canada will be drilled on the Steveville structure, on a location yet to be definitely chosen in Section 7, Township 18, Range 2-w4. John Galloway, in charge of the company's activities in Alberta, declared contract will be let for the wildcat almost immediately in an effort to have it completed before severe weather sets in.

The company, through its subsidiary, The California Company, has large holdings of Alberta acreage on several structures. At present, a geophysical crew is working on the plains in the Brooks area and a geological party is working in the Clearwater area.

Showing on Structure

Value of the Steveville structure as a potential oil field was heightened several months ago when Anglo-Canadian Oil Company's Steveville 1 encountered a heavy oil show with a large amount of gas below 3100 feet. Water intrusion has thus far delayed commercial completion of the well, located on Legal Subdivision 2, Section 13, Township 21, 12-w4, but the company immediately has put down Steveville 2, on Legal Subdivision 4, Section 14, Township 20, 11-w4, which is currently testing at 3262 feet. A third test was meanwhile started by Anaconda Oils, Limited, on Legal Subdivision 15, Section 9, Township 22, 12-w4, which last week was reaming at 2730 feet. Southeast of Anglo-Canadian's No. 2, and on the Rainy Hills extension of the structure, Anglo-Canadian's Steveville 3 has been located on the line between legal subdivisions 5 and 6, Section 34, Township 19, 10-w4. Franco Oils, Limited, has located Steveville 1 on W½ Section 34, Township 19, 10-w4.

Two wells are underway and two others will be started shortly in the far north extension to the crude area of Turner Valley opened a half-year ago by Home Oil Company's Millarville 2, currently the largest producer in Canada. Home has No. 3 spudded on Legal Subdivision 1, Section 33, Township 20-3-w4, and No. 4 drilling at 658 feet on Legal Subdivision 9, Section 28, Township 20, 3-w4. Anglo-Canadian Oil Company last week announced location for two wells on acreage of Phillips Petroleums less than 3 miles southeast of the Home company's big well; one will be on Legal Subdivision 13 and the other on Legal Subdivision 14 of Section 15, Township 20, 3-w5. Four miles northwest of the Legal Subdivision 13 test, National Petroleums, Limited's 3 is drilling on Waite Valley structure, Legal Subdivision 3, Section 25, Township 20, 4-w5. In the opinion of many geologists, Waite Valley and Turner Valley are parts of one major structure.

A new schedule of allowables for Turner Valley crude wells was issued last week by the Alberta Petroleum & Natural Gas Conservation Board. While the field's total of 27,000 barrels daily was not changed, a general shifting of figures for individual wells was made to care for three recent completions. They are the Harris 2, at 600 barrels daily; Oil Ventures 1, at 401 barrels daily, and British Colonial, at 400 barrels daily. The board lists 78 Turner Valley wells as crude producers.

The field's largest well, Home Oil Company's Millarville 2, has a quota of 939 barrels daily. Next largest well is Royalite Oil Company's No. 38, with an allowable of 788 barrels.

Houston men to fight oil well fire in Saudi Arabia

Providing fire at Damman 12, California Arabian Standard Oil Company well on Damman structure which caught fire July 10, is not extinguished in the meantime, three Houston firefighters will leave New York July 19 on the Pan American clipper and arrive on the Saudi Arabian location July 25 to combat the flames. The men are M. M. Kinley, Cleo Jobe and Charles Hengst.

Anglo Iranian Oil Company and Iraq Petroleum Company, both operating in that part of the world, have loaned helpful eequipment to the operating company, a jointly-owned subsidiary of Standard Oil Company of California and The Texas Company, but up to July 13 little progress, except reducing production of the flowing, burning well, had been reported.

The trip will be Kinley's ninth abroad to fight fires.

Damman is a relatively new field on the mainland of Arabia, near Bahrein Island, where the above referred to joint interests opened substantial production in 1935. Damman dome has already been proven in a 4700-foot horizon as a reserve of considerable proportions, through completion of a number of wells with large initials. Plans have been made by California Arabian Standard Oil Company to install permanent camp facilities there.

Chilean monopoly profits to be used for exploration

Profits from operation of a state monopoly of the oil industry in Chile will be used for exploratory drilling in the Tres Puentes region of the Magellan Territory, where some oil was found back in 1931, according to reports originating in Santiago.

The Chilean government is said to be negotiating for acquisition of the marketing and distributing properties and facilities of private oil companies for a consideration of $5,000,000, but it will be some time before the law of 1931 providing for a petroleum monopoly can be modified enough to make such an acquisition legal, according to a government official. Meanwhile, foreign companies are reputed to be liquidating their Chilean properties.

British Guiana to grant prospecting concession

Word received from Georgetown July 6 stated the Official Gazette of British Guiana had given notice of intention to grant to Central Mining and Investment Corporation, a license to explore for oil for a period of one year over 60 tracts of Crown land located between the Corentyne and Demerara rivers. This concession contains approximately 3200 square miles with the exception of some acreage already lawfully occupied or reserved.

Polish production

Poland's production of crude oil in March totaled 44,968 metric tons, of which Jaslo district contributed 13,448 tons, Drohobycz 27,650 and Stanislawow 3870 tons.

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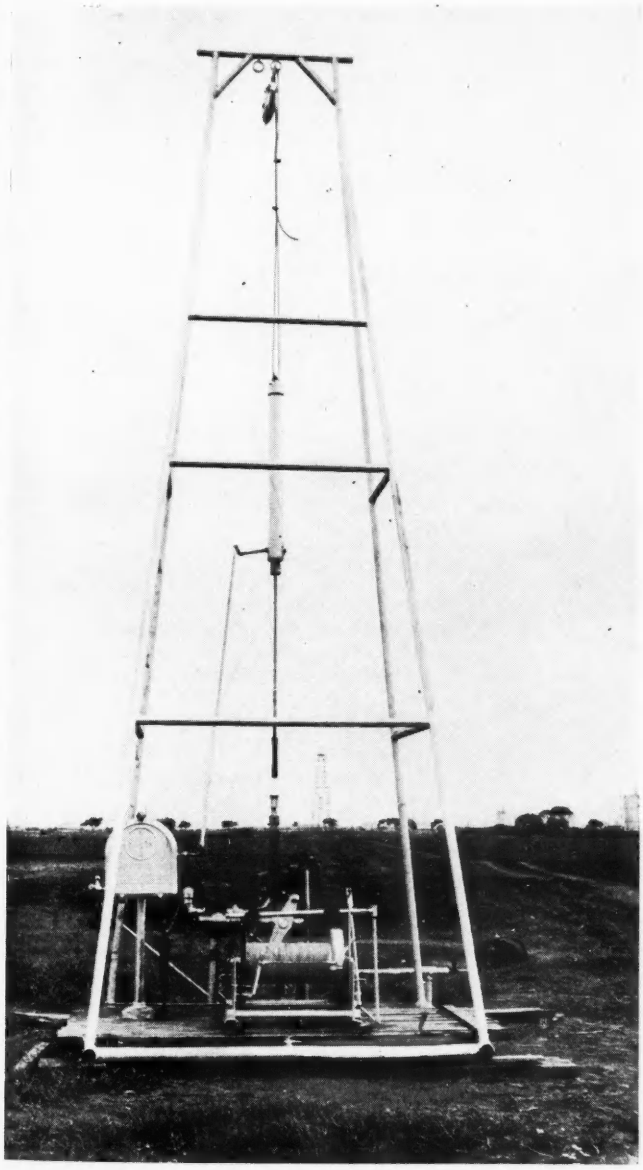

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Hungary's crude output increases in March

According to the Bureau of Mines of the Royal Hungarian Ministry of Industry, Hungarian petroleum production during March, amounted to 90,491 quintals compared with 56,702 during February. Total production during the first 3 months of the year was 223,376 quintals compared with 51,975 quintals during the corresponding period of the preceding year. Total sales during the first 3 months amounted to 213,875 quintals.

Of the petroleum produced during March, 1774 quintals were produced in the government fields at Bukkszek, and 88,717 quintals in the fields at Lispe by Hungarian American Oil Company, according to Dale W. Maher, American consul at Budapest. In the government fields 23 of the 39 wells were in operation at various periods during the month. Hungarian American Oil Company operated 11 wells continuously in the Lispe district during the month.

During March Hungary produced 2,859,297 cubic meters of natural gas, compared with 2,584,292 cubic meters during the preceding month. Production during the first 3 months of the year amounted to 8,087,735 cubic meters, compared with 848,683 cubic meters during the corresponding period of last year. The consumption of natural gas during the month amounted to 1,224,760 cubic meters compared with 1,259,736 cubic meters during the preceding month.

European Gas and Electric Company has recently started investigations in the vicinity of Kaposvar, approximately 210 kilometers southwest of Budapest, in the hope of locating new oil fields. The so-called Pannonia basin near Kaposvar is supposed to be geologically favorable for the accumulation of oil. Prospecting will begin at Kaposfured near Kaposvar in the near future, Maher reports.

The company has the privilege of prospecting for oil on the great plains and in the recently annexed Ruthenian territory, it is said.

Exploration to start soon on new Iranian concession

Initial exploratory efforts will be commenced on the southern part of the northernmost of two Iranian concessions recently ratified by royal decree and granted to N. V. Algemeene Exploratie Maatschappij, a concern headquartered in Rotterdam, Holland, and having considerable production interests in Netherlands India work under contract by a subsidiary of Royal Dutch Shell.

Both the concessions have an area of about 236,000 square kilometers, but only the northern of these two is an oil concession. It is near to and southwest of the Caspian Sea, or in the northwestern part of Iran and west of the eastern Iranian concession relinquished in 1938 by Anglo-Iranian Oil Company.

With a clause providing for cancellation by the government at the end of one or two years, the concessions run for three years. It is stipulated that exploration work must start within six months of ratification and that 500,000 florins must be spent thereon—100,000 the first year and 200,000 in each of the two succeeding years. In the event production is found, the company will be given a 60-year exploitation concession on selected areas.

N. V. Algemeene Exploratie Maatschappij has an understanding with the government that it will form subsidiaries to develop any wildcat strikes, that Iranian capital will be invited to participate to the extent of 49 percent, and that the government will appoint one director on the board of each subsidiary.

The southern of the two concessions involved in the 236,000 square kilometer grant is for development of minerals exclusive of petroleum.

An intensive exploration and development program is being carried out in the new fields of Iran with many favorable prospects, according to a statement recently made to stockholders of Anglo-Iranian Oil Company in London by Lord Cadman, chairman of the board.

Haft Kel and Masjid-i-Sulaiman continue the more important fields of Iran, the former producing twice as much for Anglo-Iranian as the latter. The company's recovery of crude in that country during 1938 amounted to 11,556,000 metric tons, including the 1,229,000 metric tons received as its share of production of Iraq Petroleum Company.

Ernest Mercier, chairman of the board of Compagnie Francaise des Petroles, told stockholders in Paris last month that a new pipe line would be constructed from Kirkuk to the Mediterranean sea and that production of Iraq Petroleum Company, in which his organization is interested to the extent of 23.75 percent, would be practically doubled in within two or three years.

OIL IN GREECE?

That's what H. M. Armbrister, above, will try to determine. He left recently for Greece where William Helis, Jr., Gulf Coast operator, holds an exploration concession. The seismograph set he is holding is said to be one of the smallest in the world. It was designed by Hoard Exploration Company, his employer.

Peruvian test in Pirin district is producer

Government mining engineers in charge of Peru's efforts to develop additional reserves recently informed the minister of mines and public works at Lima that R.P. 2, a wildcat in Pirin, Department of Puno, had been completed for 100 barrels daily along with considerable gas.

Importance of this development lies in the fact that it indicates a possibility that crude oil may be supplied to the Departments of Puno and Cuzco in south Peru at practically the same prices prevailing in the coastal district. Construction of a refinery near Pirin production is contemplated by the government.

David Clark, acting United States commercial attache at Lima, reports the government has recently completed R.T. 14 in the northern district of Zorritos for 8 barrels per day.

Alberta justice challenges government control law

Validity of legislation requiring firms in the oil and other industries operating in Alberta to take out licenses and be subject to control by the Alberta government was challenged by a Calgary firm before Justice A. F. Ewing of the Supreme Court of Alberta.

H. G. Nolan, K. C., and E. J. Chambers, K. C., counsel for the plaintiff company, declared that the act was invalid as it gave the provincial minister of trade and industry power to put anyone out of business and as it was part of a "social credit" scheme declared invalid by the Supreme Court of Canada.

H. J. Wilson, K. C., and W. S. Gray, K. C., representing the attorney-general of Alberta, defendant in the action, recently declared the licensing act was not associated with the social credit act as it had been in force since 1934, before there was any social credit legislation in effect.

Purchase of U. S. Crude by Japan shows sharp decline

Japan's purchase of crude oil and refined petroleum productions from the United States during the first five months of the year totaled 12,793,000 barrels, as against 15,137,000 barrels in the corresponding period of 1938, according to figures compiled by E. T. Knudsen, petroleum economist of the Bureau of Mines at San Francisco. Better than 92 percent of the oil came from California wells.

MEN IN THE INDUSTRY'S NEWS

AMON G. CARTER, Fort Worth publisher and co-discoverer of the Wasson field, largest oil producing structure in West Texas, was among the passengers aboard the Yankee Clipper's first commercial passenger service to Europe via the Northern Atlantic route early last week. Carter is credited with holding the record for inaugural air line flights within and extending from the United States.

JOHN HART, deputy oil and gas supervisor for the Texas Railroad Commission, has been transferred from Midland to Eastland, where a field office has been reestablished in the Exchange Bank Building.

"SI" CRATES, who is scouting the Illinois-Indiana-Kentucky area for Phillips Petroleum Company, is spending part of his vacation in Oklahoma City.

FOSTER SCHEMPF, district geologist for Stanolind Oil & Gas Company at Tyler, Texas, has been transferred to Midland, Texas.

E. L. SUMMERS, of The Texas Company, was elected president of the newly formed Houston Petroleum Electric Club at the first meeting on July 12. The club is composed of members of the Petroleum Industry Electrical Association and the Petroleum Electrical Supply Association.

JAMES D. HANCOCK, joint owner of producing properties in the McCamey field, West Texas, has organized Swan Oil Corporation in consolidating his interests, with his two sons, John L. and James D. Hancock, Jr., becoming members of the firm. Headquarters will be at Dallas, Texas.

RALPH TALLEY, superintendent of the land and lease department of Magnolia Petroleum Company, Dallas, is vacationing with his family in Colorado.

V. G. NORRIS, student of petroleum technology at Birmingham University, England, recently was awarded the Institute of Petroleum's medal for a paper titled "Porous Flow and Its Application to Increased Recovery from Petroleum Reservoirs."

C. F. CLAY, Denver, Colorado, attorney and oil operator, has joined J. B. Means of Tulsa, in the formation of Marine Oil Company, which will operate in the Forest City basin.

GLENN LUCAS, scout for Carter Oil Company at Ponca City, Oklahoma, is completing a short assignment in Tulsa and will sail for Venezuela within a few days for work with Standard Oil Company of New Jersey.

CHARLES A. RODSTROM, one time secretary to the late K. R. Kingsbury, president of Standard Oil Company of California, recently arrived at Manama, Bahrein, as representative of California Arabian Standard Oil Company. For the past two years Rodstrom, who has seen service in Bahrein before, has been recruiting personnel in New York.

A. K. MacEWAN and Sir Padaniji Ginwala have been elected to the board of directors of British Burmah Petroleum Company, succeeding respectively Dr. A. W. G. Bleeck and Major E. Seaborn Marks, resigned. Padaniji also is a director of Indian Iron and Steel Company and of Steel Corporation of Bengal.

J. H. HESTERLY of Shell Oil Company's land department at Houston, is progressing satisfactorily after an operation early last week.

DAVID B. McCONNELL, connected with the Louisiana Conservation department since 1931 and manager of the Northwest Louisiana district office at Shreveport since January 1, 1937, last week was named to succeed Dr. J. A. Shaw as director of the minerals division of the department, by Governor Earl K. Long after Long instructed Conservation Commissioner William G. Rankin to "fire" Shaw.

Shaw, a strong ally of the late Huey P. Long, had held the post as head of the

DAVID B. McCONNELL

minerals division since 1929. Shaw practiced dentistry for 15 years until 1919, when he became interested in the oil business and moved to Shreveport.

McConnell has been a resident of Shreveport most of his life, moving there in 1901 from Greenburg, Indiana, where he was born July 23, 1896. He was first connected with the conservation department as a field agent. Previously he was engaged in the automobile and oil business.

During his period as manager of the Shreveport office, McConnell has become well known and well liked in the oil fraternity of the Shreveport area because of his even handling of its enforcement policies.

DR. J. A. L. HENDERSON of England, consulting petroleum engineer and vice chairman of Maritime Oilfields, Limited, and of New Brunswick Gas and Oilfields, Limited, is spending the next few months in Canada and the United States on professional business.

A. N. GRIFFITH, petroleum engineer for Frank W. Bennett Oil Company at Dickinson, Texas, became the father of a 9-pound son on July 10.

S. C. CLOVER, of Tulsa, E. C. Rogers and M. W. Beckham of Oklahoma City, have completed organization of Petroleum Exploration Corporation of Oklahoma City.

V. M. VOORHEES, head of Voorhees Drilling Company which this week extended Walker field in Michigan a mile northwest and one half mile west by completion of two wells, is in a Grand Rapids hospital recovering from an automobile accident.

PROF. W. L. SUMMERS, of the University of Illinois law school, presided at an institue on oil and gas laws at Evansville last week and attended by more than 100 lawyers and members of the oil fraternity of Indiana, Illinois and Kentucky. Others who addressed the group were Earl Foster, attorney for the Oklahoma Corporation Commission, and Allen K. Swann, Oklahoma oil and gas attorney.

FRED WEHRMAN, who with T. H. Lee, took part in financing to successful completion the British Colonial Oil Company's well in the Turner Valley field of Alberta, Canada, planned to leave Calgary last week for his home in New York City.

W. M. WOFFORD has become associated with Carl C. Mays and Winston Nowlin in the Wofford Drilling Company, a new firm with headquarters in Dallas. Both Wofford and Mays are interested in the GW Drilling Company.

L. L. HAINES has succeeded H. L. Patterson as superintendent of production in the Clay City (Illinois) area of Illinois for Pure Oil Company. Patterson has been transferred to Corpus Christi.

W. S. HERRON, credited with discovery of the Turner Valley field of Alberta, Canada, and president of Okalta Oils, Ltd., is recovering in Calgary from a heart attack.

KENT RIDLEY, JR., of the land department of Shell Oil Company with headquarters at Baton Rouge, who was seriously injured in an automobile accident on June 28, has progressed sufficiently toward recovery that he was moved from the hospital at Opelousas, Louisiana, to a Houston hospital.

FRANK R. SCHNEIDER, vice president of Simms Oil Company until its acquisition by the Tide Water Associated Oil Company, has been appointed supervisor of public utilities by the City of Dallas.

M. M. TRAVIS and brothers have reorganized the Southport Petroleum Company of Texas, owner of a refinery, pro-

ducing properties and a crude gathering system in the Kilgore section of the East Texas field, and have been given a Texas charter to operate as M. M. Travis, Inc. The refinery will be known as the M. M. Travis Refinery, Inc.

DIED:

DR. DONALD C. BARTON, head of the department of geophysical research of Humble Oil & Refining Company, died in Houston July 8 after a three-week illness. A geologist of international repute, he was born at Stow, Massachusetts, in 1888 and educated at Harvard University; receiving the degree of doctor of philosophy in 1914. His first position, that of geologist for Empire Gas & Fuel Company, was terminated by war service. From 1919 to 1923 he was division geologist at Houston for Amerada Petroleum Corporation, and from 1923 until 1927 he was chief geologist for Rycade Oil Corporation. Seven years of private consulting practice preceded his acceptance of the position held at the time of his death. An authority on Gulf Coast geology, he is said to have supervised the first use of the torsion balance in this country for oil exploration. His affiliations included the American Association of Petroleum Geologists, of which he was past president; Geological Society of America; A.I.M.M.E.; Society of Economic Geologists; American Geophysical Union; Societe Geologique de France; and (British) Institution of Petroleum Technologists.

ROBIN A. ELLIOTT, 41, vice president of F-H-E Oil Company, died July 7 at his Fort Worth residence. He had suffered from a heart ailment for several months, but his condition was not considered serious as he made a business trip by plane to Austin the day prior to his death. He was one of the organizers of the above company, which has extensive holdings in East Texas.

H. H. GRACEY, 46, Fort Worth operator and former drilling contractor in West Central Texas, died July 7 in a Fort Worth hospital after a short illness.

CHARLES L. MOUNT, 62, of Aransas Pass, Texas, died July 11 in New Orleans. An oil operator for many years, he had lived in Cisco, Texas, and Petroleum, West Virginia, and had spent several years in Burma and Chile.

Dismisses $10,000,000 Michigan damage suit

Circuit Judge E. C. Pugsley of Big Rapids on July 7, granted a motion dismissing a $10,000,000 damage and conspiracy suit brought by Roy F. Ide of Detroit et al, against the Consumers Power Company, Grand Rapids Gas Light Company et al.

Suit was dismissed on motion of the defendant Consumers Power, one of Michigan's biggest gas-electric utilities, on the grounds that the bill of complaint was multifarious and a misjoiner of parties and causes of action.

Suit involved gas purchase contracts in the Six Lakes field.

Bureau's May report shows general increase

Increasing for the seventh consecutive month, daily crude oil production in May reached an average of 3,566,000 barrels, a gain of 49,000 barrels over the preceding month and 427,000 barrels above the May, 1938, average, it was reported July 12 by the Bureau of Mines.

The major part of the increase was in Illinois, where production reached a record figure of 221,000 barrels daily, a gain of 40,000 barrels, the report showed; increases were also recorded in Oklahoma (9000 barrels) and Wyoming (6000 barrels), but Texas showed a decrease of 22,000 barrels.

"The indicated demand for domestic crude petroleum in May was 111,700,000 barrels, an increase of 5 percent over May, 1938," the bureau explained. "This demand was supplied by a production of 110,541,000 barrels and a crude-stock decrease, including California heavy crude, of about 1,100,000 barrels. The export demand for crude amounted to 8,600,000 barrels, a 10 percent gain over May, 1938. Runs to stills were 3,411,000 barrels daily, and represented the highest monthly average since September, 1937. The May demand for foreign crude petroleum approximated 4,000,000 barrels, representing a 72 percent increase over May, 1938."

As compared with May of last year, the report disclosed, the total domestic demand for all oils showed a gain of about 10 percent, while refined exports increased by almost 14 percent.

"The indicated domestic demand for motor fuel was 49,547,000 barrels, or 10 percent more than the demand a year ago," the bureau continued. "Exports of motor fuel were 4 percent below last year. The larger demand for motor fuel in May only partially offset the unexpectedly low demand in April. Domestic demand for the first 5 months of 1939 has been 6 percent greater than last year. Finished gasoline stocks decreased by 3,300,000 barrels in May.

"The total demand for fuel oils continued to run well ahead of last year. For the first 5 months of 1939, the demand for residual fuel was about 11 percent greater than for the same period in 1938, while the demand for gas and distillate fuels was 16 percent greater. In May, 1939, total residual demand was 15 percent greater than for May, 1938, and gas and distillate demand was 16 percent larger."

Figures of the Bureau of Labor Statistics place the price index for petroleum products in May at 52.5, compared with 51.9 in April and 56.4 in May, 1938. The crude-oil capacity represented by the refinery data in the report was 4,120,000 barrels, making the operating ratio 83 percent, compared with 80 percent in April and 79 percent in may of last year.

Bureau of Mines May Report of Supply and Demand of All Oils

(Thousands of barrels)

	May, 1939	April, 1939	May, 1938	January - May 1939	January - May 1938
New Supply:					
Domestic production:					
Crude petroleum	110,541	105,510	98,674	518,784	508,569
Daily average	3,566	3,517	3,183	3,436	3,368
Natural gasoline	4,280	4,232	4,196	20,755	20,918
Benzol*	130	162	117	839	667
Total production	114,951	109,904	102,987	540,378	530,154
Daily average	3,708	3,663	3,322	3,579	3,511
Imports:†					
Crude petroleum:					
Receipts in bond	494	284	277	1,831	1,223
Receipts for domestic use	3,434	2,648	1,804	10,125	9,232
Refined products:					
Receipts in bond	2,130	1,475	1,539	7,390	7,746
Receipts for domestic use	529	366	401	2,817	2,681
Total new supply, all oils	121,538	114,677	107,008	562,541	551,036
Daily average	3,921	3,823	3,452	3,725	3,649
Increase in stocks, all oils	245	4,617	‡1,651	4,514	26,483
Demand:					
Total demand	121,293	110,060	108,659	558,027	524,553
Daily average	3,913	3,669	3,505	3,696	3,474
Exports:†					
Crude petroleum	8,643	6,222	7,798	29,118	32,753
Refined products	12,128	ɪ9,243	10,681	48,028	46,905
Domestic demand:					
Motor fuel	49,547	43,977	44,911	208,406	196,461
Kerosene	4,368	5,042	3,637	26,492	23,497
Gas oil and distillate fuels	7,357	10,047	ɪ7,144	59,147	49,724
Residual fuel oils	25,646	24,806	ɪ22,353	132,021	119,799
Lubricants	2,132	ɪ1,770	1,730	9,172	8,298
Wax	102	52	92	398	480
Coke	587	394	422	2,762	1,994
Asphalt	2,714	1,840	2,203	7,717	7,261
Road oil	695	267	593	1,543	1,251
Still gas	5,798	5,386	5,542	26,270	24,881
Miscellaneous	214	181	143	908	715
Losses	1,362	833	1,410	6,045	10,534
Total domestic demand	100,522	ɪ94,595	90,180	480,881	444,895
Daily average	3,243	3,153	2,909	3,185	2,946
Stocks:					
Crude petroleum:					
Refinable in U. S.	278,087	278,565	298,983	278,087	298,983
Heavy in California	14,492	15,198	17,353	14,492	17,353
Natural gasoline	6,212	5,484	6,548	6,212	6,548
Refined products	260,193	259,492	267,585	260,193	267,585
Total, all oils	558,984	558,739	590,469	558,984	590,469
Days' supply	143	152	168	151	170

* From Coal Economics Division. † Imports of crude as reported to Bureau of Mines; all other import and exports from Bureau of Foreign and Domestic Commerce. ‡ Decrease. ɪRevised.

THE WEEK'S NEWS SUMMARIZED

Allowables

The Rowan-Nichols attack on the method of applying proration in East Texas, which resulted in an invalid decision a month ago, became further complicated last week. The Federal Tender Board at Kilgore refused the concern a tender on production obtained in accordance with an injunction it has against the Texas Railroad Commission, and Rowan-Nichols Oil Company immediately took the matter to court.

Meanwhile, another firm asked the Texas Railroad Commission for a higher allowable on its East Texas wells, which were not as close drilled as the field's average, because of the Rowan-Nichols court decision. So far all such petitions have been denied, and the commission has indicated it will take no action in drafting a new proration method until the question is finally decided by higher courts.

California's oil control bill remained unsigned by the governor last week, although July 25 is the deadline. Although Governor Olson had expressed himself as favoring the measure previously, for some unexplained reason he has not affixed his signature.

At Capitols

The Interstate Oil Compact act will be extended for another two years after its expiration on September 1 this year. Last week the measure was approved by Congress and sent to the White House, where President Roosevelt is expected to affix his signature at an early date because he had recommended passage of the legislation.

Liberalization of the Interior Department regulations of the oil leasing act are in prospect, according to Senator Joseph O'Mahoney, who has been working for the easing of the requirements to be met by holders of prospecting permits and leases.

Temporary legislation that would shut off United States oil and gasoline from signatories of the Nine Power Pact has been introduced into the U. S. Senate. It would fill a gap until Congress considers neutrality legislation. The measure is thought to be aimed particularly at Japan, although Belgium, the British Empire, France, China, Italy, the Netherlands and Portugal are also signers of the pact. The resolution provides that the president, whenever he finds the countries named endangering the lives of American citizens or depriving them of rights and privileges, he may restrict or prohibit exports of specified military equipment, including oil and gasoline.

At Austin, the Texas attorney general ruled that oil in working tanks and in transit in pipe lines was not taxable by a county for ad valorem taxes, even though in the county on the date when assessments are made.

Prices

Prices in the oil industry have been sagging lately. Gasoline tank car prices were down ⅛ cent a gallon for intermediate octane grades by some sellers in the Chicago territory last week. Quotations were ⅛ cent lower on kerosene at some Mid-Continent refineries, and heating oils were off ⅛ cent at Chicago.

Crude oil prices continued to remain unchanged.

Statistics

Comparatively large output at both wells and refineries continued during latest week for which statistics are available. Production rose 66,800 barrels to 3,529,800 barrels daily and exceeded the Bureau of Mines estimate of demand by about 16,000 barrels.

Crude runs to stills at 3,420,000 barrels was down 60,000 barrels, but still 10.5 percent greater than a year ago. Gasoline production dropped 78,000 barrels from the all-time record of the previous week when it averaged 1,625,000 barrels daily.

However, gasoline stocks were reduced but 279,000 barrels during the week, and inventories were 1.2 percent larger than at the corresponding period of 1938.

Stocks of gas oil and distillate fuels went into storage to the tone of 1,200,000 barrels during the week and now are ½ of 1 percent greater than a year ago.

Crude stocks were further reduced, as 730,00 barrels were drawn from storage. These stocks are 6.9 percent smaller than last year.

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Allowable Picture

Rowan-Nichols oil produced according to court is without approved tenders . . . July 25 deadline for governor to sign California oil control law

Tender board refuses Rowan-Nichols oil

Further developments occurred last week in the Rowan-Nichols Oil Company's fight in the courts for a revision in the method of prorating its wells on a lease in the East Texas field.

The situation was further complicated when the Federal Tender Board refused to approve Rowan-Nichols tenders on the oil produced from its Todd "B" lease, although production was in accordance with the previous federal court rulings (See THE OIL WEEKLY, June 19, 1939).

A hearing was set for the morning of July 15 in federal court at Tyler, in which Federal Judge T. W. Davidson of Dallas was scheduled to consider the application of Rowan and Nichols for a court order to enjoin the Federal Tender Board from interfering with shipment of oil from the lease involved in the litigation.

Lease Output Stored

Production was resumed on the company's Todd "B" 5-well lease early last week after forfeiture of 2½ days' allowable, due to stock tanks being filled. Relief was obtained by laying a short line to empty tankage on the company's Todd "A" lease, which is not included in the special allowable quota.

Roy Nichols of the Rowan-Nichols Oil Company stated last week that the company would provide the necessary tankage to produce and store the 220 barrels daily permitted by the court, if the Federal Tender Board was upheld in refusing clearance.

Board Denies Tender

The tender board on July 8 refused to grant a July forecast tender for movement of 5060 barrels of oil to be produced by the company during the remainder of the month under a federal district court order.

The court had ruled that the Texas Railroad Commission's proration order as applied to the Rowan-Nichols lease was invalid, and ordered that the complainants' 5 wells on the lease could produce 220 barrels daily pending further court action in the case, whereas the railroad commission had prescribed combined allowables of 112.82 barrels daily for the wells.

The denied tender application of 5060 barrels (23 days' output at 220 barrels daily) for July dealt with the total production of the lease. Therefore, the tender board put a ban on the entire production and not just the authorized increase.

The federal board made its ruling after the similar state tender board had approved movement of the oil.

The Federal Tender Board, in refusing to grant the tender, held that oil produced by the company was contraband under the Connally hot oil act.

Tender Board Ruling

The board's decision read as follows:

"The board finds that Rule 23 of the special Railroad Commission order of June 19 did not exclude wells of the applicant, inasmuch as the order reads: 'Owner or operator or manager of each well in the East Texas field shall be permitted, either collectively or individually, to produce daily from each well a maximum of 2.32 percent of the hourly potential capacity as determined by the commission.'

"That that part of Rule 23 of said order which states: 'The above order shall not be enforced as to property of Rowan & Nichols Oil Company—' does not constitute exception to the allocation covering each well in the field on a potential basis.

"That said provision in nowise changes the order as written, but merely suspends or holds in abeyance enforcement of the order as applied to Rowan & Nichols.

"That the order of the United States District Court at Austin does not show on its face that it applies to Federal Tender Board No. 1, and

"That the board further finds that the constituent part of the 5060 barrels of petroleum covered by the tender application is or would be contraband within meaning of the Connally act."

In applying for a court order that would enjoin the tender board from interfering with shipment of the oil in question, the Rowan-Nichols Oil Company contended that its production was legal under the federal court ruling.

State Officials Gratified

State authorities were gratified with the refusal of the Federal Tender Board to grant tenders on the oil produced under the protection of the court order. They pointed out that the tender board order specifically stated that the oil "would be contraband within the meaning of the Connally act."

Contraband oil, it was stated, may not be commingled with legal oil and then moved in interstate commerce. This automatically precludes the taking of the Rowan & Nichols oil by any major pipe line, as all of them move at least a part of their oil, in one form or another, interstate.

No Action on Petitions

The commission has not acted on any of the several petitions for adjustment, and has unmistakably indicated it does not intend to act. So far, none of the petitioners has evidenced an intention of going to court.

Sinclair Prairie Oil Company has joined the ranks of those asking for adjustment of East Texas allowables on the basis of the Federal court opinion in the Rowan and Nichols case.

The Sinclair Prairie attorneys took a slightly different view of the court opinion than others have taken, as indicated by the following statements quoted from the Sinclair Prairie petition:

"Your applicant respectfully refers to the opinion . . . in which the court held that the proration order . . . and the manner in which the allowable production had been allocated . . . was discriminatory and confiscatory . . . and in which the court held that failure of the order to take into consideration the density to which various leases had been drilled, operated to make such order and the administration thereof invalid . . .

"Sinclair Prairie respectfully requests the commission to revise its order to allow this applicant the share of the total allowable which is reasonable on account of the average drilled density of its leases in comparison with the drilled density of all other leases . . ."

The significant thing about this petition was that there was no mention of acreage except that the company set out it owned approximately 5.08 percent of the productive acreage of the field.

California control bill still is unsigned

With July 25 the deadline for the signing of the Atkinson oil control bill, Governor Olson is expected to sign this important oil measure before the current week is out. The California Senate passed the bill last month and the governor chose to let the bill lie dormant, for unexplained reasons, for 30 days.

Meanwhile, rumors have swept the petroleum industry that all is not peaceful within the ranks of the major oil companies reportedly as supporting the bill. Attorneys for the opposition have indicated recently that a genuine movement to bring about a referendum will be launched the moment the bill is signed. It becomes effective October 1, unless it is forced on the ballot at the next general election to be held in November, 1940. Some factions who previously supported the bill are reported to be split on the issue or still on the fence.

The affixing of the governor's signature to the bill, probably this week will take place about the same time the Central Committee of California oil producers holds its regular monthly meeting to set the August crude quota. This is scheduled for July 25.

Guesses made on new plan for prorating East Texas

East Texas field operators and engineers are actively engaged in guessing and calculating as to what proration fomula the Railroad Commission will adopt in the event the Rowan-Nichols Oil Company's Federal Court decision against the prevailing method of apportioning production is upheld by the higher courts.

Simple plans advanced include one that

would incorporate 3 factors, and boost the base daily allowable of the field 29,468 barrels to 552,729 barrels. This particular formula calls for the allocation of 10 barrels to each well; one barrel for each producing acre; and one barrel for each 100 barrels of rated hourly potential currently assigned to each well. Using the commission's July 1 figures, this plan would allot 259,930 barrels on a basis of 10 barrels for each of the 25,993 wells; 135,335 barrels on a basis of one barrel for each of the 135,335 acres; and 157,464 barrels on a basis of one barrel production for each 100 barrels of hourly potential, since the field is credited with 15,746,443 barrels.

Questioned regarding the above formula, Roy Nichols of the Rowan-Nichols Oil Company stated that it failed to give consideration to the amount of oil in place under a given tract, therefore would not be acceptable. He indicated that sand thickness must be included as a factor in order to conform with the court ruling. "The company is spending a large sum in establishing title to the oil under its property, and will not compromise on demands for an equitable proration order," he added.

Texas fields are given higher allowables

Increased market demand brought allowable increases to several Texas fields during the past week.

Howard-Glasscock, Iatan-East Howard, and Snyder, were increased by exempting them from the Sunday shutdowns, which was equivalent to giving them an extra days' production as an allowable increase. Howard-Glasscock's daily is 17,302; Iatan-East Howard gets 7206 and Snyder's allowable is 2836.

Duggan was increased from 459 to 1656 barrels and Slaughter from 1691 to 4600 barrels, the net increase of 4206 barrels for the two fields being intended to supply a new refinery opening at Levelland.

New schedules issued on the Fuhrman field in Andrews County boosted the daily output from 2037 to 5000 barrels, an increase of 2963 barrels.

The new Cordele field in Jackson County was upped from 2088 to 2954 barrels daily.

Allowable of the Mason pool in Loving County was increased from 251 to 522 barrels daily.

Revised schedules showed an increase from 360 to 423 barrels daily for the Satsuma field in Harris County.

Revised schedules gave an increase to the New Mykawa field from 650 to 963 barrels daily.

The Van field in Van Zandt County was increased 4000 barrels, from 19,732 to 23,732 barrels daily.

Initial move taken to hold Michiganders to allowable

Telegrams were dispatched by J. P. Hoffmaster, supervisor of wells, State Conservation Department, July 11, to pipe line purchasers of crude oil in the 5 prorated fields of Michigan as certificates of tender as the first step in a "crack down" to bring production to the 200-barrel per well per day limit.

A maximum of 200 barrels per well on 10-acre units was ordered by Hoffmaster as a waste prevention measure in an emergency order effective June 1 and on July 1 an identical proration allowable was made a permanent order by the Conservation Commission.

Reports reaching Hoffmaster and the advisory board through both operators and personnel of the Geological Survey Field Division were to the effect that several operators and pipe line purchasers were disregarding the order.

Protests voiced to the geological survey, which has been assigned the field enforcement of Hoffmaster's orders, were in general answered that the department lacked both funds and personnel to establish a policing program. One big operator demanded protection through the state militia.

Meeting Monday, July 10, the advisory board and Hoffmaster immediately laid plans to get effective enforcement of allowable orders. The telegrams, said to be a legalized certificate of tender by Hoffmaster, notified pipe line purchasers of the maximum runs allowed under the order and that purchases over or above the allowable would be construed as illegal oil.

No figures were available as to the actual amount of oil produced and/or sold out of Walker field, Kent County, during the first 10 days of the month. Estimates placed the amount from 15 to 40 percent over the 200-barrel allowable. Members of the advisory board said their information indicated that the order has been adhered to in all the other areas.

Dissatisfaction was expressed by a high official of the Oil and Gas Association of Michigan, which was the biggest sponsor of oil legislation, as to the failure of the state to enforce the proration orders. On the other hand, a high ranking member of the conservation personnel asserted that most of the confusion resulted from the "immediate effect" provision tagged on the act. He pointed out that the department was unable to prepare machinery for launching the act on a moment's notice. Had the bill followed usual channels it would not have been effective until 90 days after passage.

Only one engineer and two field men have been employed by the department since the act was effected.

A member of the advisory board said that pipe line purchasers, on receiving the notice of tenders, immediately ordered all runs in prorated areas reduced to the allowable.

Decision in Kansas against proration order

By granting a temporary restraining order, Judge Roy A. Smith of Ellsworth County, Kansas, has prevented the Kansas Corporation Commission from enforcing its orders in the Lorraine field. The order was granted on petition of Winker-Koch Engineering Company, Courtney B. Davis and Bradley Oil Company, whose plea was that the proration order recently made would result in both underground and economic waste.

The commission filed notice of appeal.

Oil at the Capitols

Interstate Oil Compact extension for two years is awaiting President's signature . . . Bill proposes stopping oil exports to nine of largest customers

Compact legislation extended two years

Both the Senate and the House have approved legislation that will extend the Interstate Oil Compact for another two years after its expiration on September 1 this year. In neither body was there any discussion of the measure, other than formal inquiry as to its purpose. The bill has been sent to the White House, where it is certain to be signed by President Roosevelt as he had urged its passage to Congress.

Enactment of the legislation was recommended to the Senate on July 11 by the Committee on Mines and Mining, and received prompt action, being passed on July 13.

Reporting the resolution for the committee, Senator Joseph F. Guffey of Pennsylvania, chairman, pointed out that the compact, originally adopted in 1935 and extended in 1937, is due to expire September 1, next, and that President Roosevelt, in a message to Congress, "has expressed a hope that we will enact appropriate legislation" for its continuance.

At the time of its original adoption, Senator Guffey said in his report, it was "hoped that the oil-producing states, acting together under this compact, would be able to conserve this natural resource, prevent its waste, and to aid the petroleum industry to achieve a stable situation. That it has had this effect has been demonstrated during the 4 years the compact has been in force.

"Interstate compacts such as this one are in complete harmony with the spirit of our American form of government," he told the Senate. "They preserve the rights of each separate state at the same time that they enable each of these states to work together on a sound program which all of them accept. They involve no use of force. They impose no prohibitions beyond those which are imposed by the states themselves. They enable the various states, signatory to such compacts, to do those things which are necessary but which might not be done by any of them separately or by any group of them without this consent of Congress.

"This compact definitely states that nothing in it would authorize the states

to limit the production of oil or gas for the purpose of stabilizing or fixing the price thereof, to create a monopoly, or to promote regimentation."

Senate proposal would stop oil exports to Japan

Temporary legislation, shutting off supplies of American oil and gasoline from major powers signatory to the Nine Power Pact in the event of conditions affecting the lives or rights and privileges of American citizens, has been introduced in the senate by Senator Pittman of Nevada, chairman of the Foreign Relations Committee.

The measure is designed to fill the gap occasioned by the decision of the committee July 11 to defer consideration of neutrality legislation until the next session of congress.

The legislation is aimed particularly at Japan, although it names also the other signatories to the pact—Belgium, the British Empire, France, China, Italy, the Netherlands and Portugal.

The resolution provides that whenever the President shall find that any of the nations named is endangering the lives of American citizens or depriving them of their legal rights and privileges, he may, by proclamation, restrict or prohibit the export from the United States to such country of specified military equipment, including oil and gasoline.

Violations of such proclamations would be punishable by fines not exceeding $10,000 or imprisonment for five years, or both, together with seizure of the material and the vessel or vehicle containing it.

It was explained by Senator Pittman that the resolution would permit the President either to embargo all exports of the specified war materials or to limit them to such extent as he deemed desirable to meet the ordinary needs of the importing country but not for war purposes. Proclamations would not take effect for a period of 30 days after their issuance, and the measure would expire May 1, next, by which time it is anticipated new neutrality legislation will have been enacted.

Liberalization of government oil land leases proposed

Liberalization of Interior Department regulations for the administration of the oil leasing act are "definitely in prospect," according to Senator Joseph C. O'Mahoney of Wyoming, who has been working for the easing of the requirements to be met by holdings of prospecting permits and leases.

Discussing the situation last week, Senator O'Mahoney explained that he has held a number of meetings with department officials and has arranged for conferences with oil experts from the west "with the result that the whole official attitude toward oil and gas leases on the public domain is being re-examined."

"Particular attention will be given to the bond provisions, the form of the oil and gas lease and the provisions affecting rentals," he said. "I am hopeful that changes of the regulations will be authorized which will be definitely encouraging to development. Other features are also being reviewed.

"It has seemed to me that a preliminary bond should not be required under any lease that is not actively in development. An obligation to drill or pay rent would be adequate to protect the government's interests and would relieve the independent operator and the operator of small capital from what seems to be an unnecessary burden.

"I am also hopeful that the department will be willing to recommend legislation which will scale down the rental rate, particularly since prospective oil lands upon the public domain have little value for any other purpose. It has been my position that there should be no rental upon any undeveloped land while it is being prospected and geologized and that a much lower schedule of royalties than that now provided by law should be adopted in all circumstances.

"The provisions of the present lease are much more rigid than those contained in the ordinary oil and gas lease in common use in the oil industry and I feel that many changes could be made with great advantages to the Interior Department, to the states within which the public lands lie and to the oil industry.

"It would seem that if these and similar changes should be made, stimulation of oil and gas activity might be anticipated."

Representations also have been made with respect to the royalty charged on so-called wildcat leases, Senator O'Mahoney said.

Oil in tanks and pipe lines not taxable

Oil in working tanks and in transit in pipe lines is not taxable by a county for ad valorem taxes, even though within the county on January 1—the date when assessments are made, the Texas attorney general's department has ruled.

Such oil, the opinion advised the county auditor of Hardin County, is taxable only at the situs of the company owning it.

Market Situation

Additional ground lost by gasoline, kerosene and lighter fuel oils . . . Gasoline production is too high to permit sufficient reductions in storage

Markets still unsettled and prices work lower

The markets during the past 10 days have lost some ground, tank car prices of gasoline, kerosene, and lighter fuel oils having been lowered by some refiners and resellers.

The crude oil markets meanwhile have appeared somewhat unsettled, in view of the sagging prices for the several refined products.

For it has been contended that crude prices may be forced down, unless product prices hold at the current levels or improve.

Crude Firm in Some Areas

However, the crude markets so far have remained firm in some areas, and even have become stronger in certain districts, under the influence of relatively strict production allowables.

In the East Texas field the 5-day production week has made it possible for one of the largest independent tank lot crude dealers to completely liquidate burdensome stocks that had been carried over since last year and to change from a "long" to a "short" position on East Texas oil.

Illinois Causes Worry

Illinois remains the chief source of worry in the crude oil markets, the daily production having continued to set a new record nearly every week, and having risen by now above 260,000 barrels daily. It is doubted if Mid-Continent prices could hold at the current levels if Illinois crude should be cut again, following the recent 10-cent reduction.

Refinery Output Large

Largely responsible for recent weakening of wholesale prices of products, apparently, have been the continued exceptionally large refinery runs of crude oil. With the runs heavy, production of gasoline has been unusually large, and it has not been possible for normal summer withdrawals of gasoline from storage to be made. The gasoline stocks have been coming down much more slowly this year than last year from the peak of the beginning of spring. Moreover, the withdrawals in recent weeks have been increasingly small.

Gasoline Output Smaller

Whereas the gasoline stocks earlier this year were being held materially under last year's corresponding levels, they have come down relatively slow for several months, and finally, two weeks ago, failed to hold above the 1938 trend. They now are somewhat larger than at this time last year, although the inventory then was seriously excessive, as evidenced by the greatly depressed gasoline prices of the past year.

Some encouragement was given in the week ended July 8 by a substantial cutting back of refinery runs and the resultant reduction of gasoline production. However, the runs and the gaso-

line output still were comparatively large, having been lately at all time record levels; and so far, normal withdrawals of gasoline from storage have not been possible.

Tank car prices of oil products lower

Prices in the oil industry lately have been sagging, wholesale quantity quotations have been lowered within the past 10 days on some grades of gasoline, kerosene, and light fuel oils. Crude oil prices remained generally unchanged.

Gasoline tank car prices in the Chicago market were marked down ⅛ cent a gallon for the intermediate octane grades by some sellers.

Quotations were lowered ⅛ cent a gallon also on kerosene by some Mid-Continent refiners.

The heating oils, now going into storage for use next fall and winter, also sagged, quotations on No. 1 and No. 2 oils having been lowered ⅛ cents a gallon in the Chicago market.

U. S. motor gasoline at Oklahoma refineries ranged last week about as follows: 62 octane and below, 4¼ to 4⅝ cents a gallon; 63 to 66 octane, 4½ to 4⅞ cents; 67 to 69 octane 4¾ to 5⅛ cents; 70 to 72 octane, 5 to 5⅜ cents.

Corresponding prices in the Chicago market were: 4 to 4½ cents, 4¼ to 4½ cents, 4⅜ to 4⅞ cents, and 4½ to 5¼ cents.

In East Texas, 60-62, 400 end point gasoline was priced generally at 4¼ cents a gallon.

Natural Gasoline

Natural gasoline, grade 26-70, was selling in the Mid-Continent markets, f.o.b. refineries at 2¾ sents a gallon, and sales were reported at the same price f.o.b. Breckenridge, Texas.

Kerosene prices f.o.b. Oklahoma refineries ranged from 3⅝ to 4¼ cents a gallon for the 41-43 water white grade, and from 3¾ to 4⅝ cents for the 42-44 water white grade; and corresponding prices in the Chicago market were 3½ to 4⅛ cents and 3⅝ to 4⅜ cents.

Prices of light fuel oils were down ⅛ cent a gallon in some instances last week. In the Chicago market range oil was priced from 3¼ to 3⅞ cents a gallon. The No. 1 white oil was priced from 3⅛ to 3¾ cents, and No. 1 straw from 3 to 3⅜ cents. No. 2 straw was 3 to 3¼ cents. No. 3 oil was 2⅞ to 3⅛ cents. No. 5 oils were 57½ to 65 cents a barrel. The No. 6 oil was quoted at 35 to 45 cents.

Industry's operations above economic levels

Comparatively large output at wells and refineries continued in the week ended July 8, latest weekly statistics of the oil industry indicated.

Production and Runs

United States crude oil production was up 66,800 barrels to 3,529,800 barrels daily and exceeded the Bureau of Mines estimate of average daily demand in July approximately 16,000 barrels. The output was 7.1 percent larger than that in the corresponding week last year.

Crude runs to refinery stills came down 60,000 barrels to 3,420,000 barrels daily, but still were comparatively large. They were 10.5 percent greater than in the comparable period last year.

Gasoline Situation

Gasoline production came down 78,000 barrels from the all-time record daily average of the previous week, the output in the week of July 8 having totaled 11,378,000 barrels, or 1,625,000 barrels daily.

The output of gasoline at the plants was too large to permit a normal withdrawal from storage. The stocks were reduced only 279,000 barrels to 80,823,000 barrels. That supply was 1.2 percent larger than the inventory held at the corresponding time last year, although the stocks were seriously excessive then.

Fuel Oil Stocks

Stocks of gas oil and distillate fuels, used largely for heating and therefore going into storage at this time, were increased about 1,200,000 barrels in the week of July 8 to 32,435,000 barrels. The inventory of those oils is only ½ of 1 percent larger than at this time last year, although demand is expected to show an increase in the coming fall and winter.

Stocks of residual fuel oils, used as fuel by industry, were increased by the small amount of about 100,000 barrels, having totaled 113,494,000 barrels at the end of the week. They were then about 4.8 percent lower than at the corresponding time last year. Demand for these oils also is running materially better this year than last year.

Crude oil stocks in the United States were further reduced 730,000 barrels in the week ended July 1, having come down to 271,567,000 barrels. That quantity was 6.9 percent smaller than the amount held one year previously.

Pipe Line News

Stringing pipe for 8-inch Cunningham-Hutchinson line

Pipe for the new 8-inch natural gas pipe line from the Cunningham oil and gas field in western Kingman County, Kansas, to Hutchinson was being moved to the route last week by Cities Service Gas Company. The new line will take approximately 9,000,000 cubic feet of gas daily from the Cunningham field for consumption in Hutchinson and other northern Kansas and southern Nebraska communities. Harry McDaniel, Wichita engineer, is in charge of the project.

Skelly Oil Company, which controls the field, is enlarging its gasoline absorption plant at an estimated cost of $90,000. Kansas Pipe Line & Gas Company also purchases gas in the area.

Lovington oil moving through new pipe line

The Texas-New Mexico Pipe Line Company has given the Lovington 11-well pool, Lea County, New Mexico,

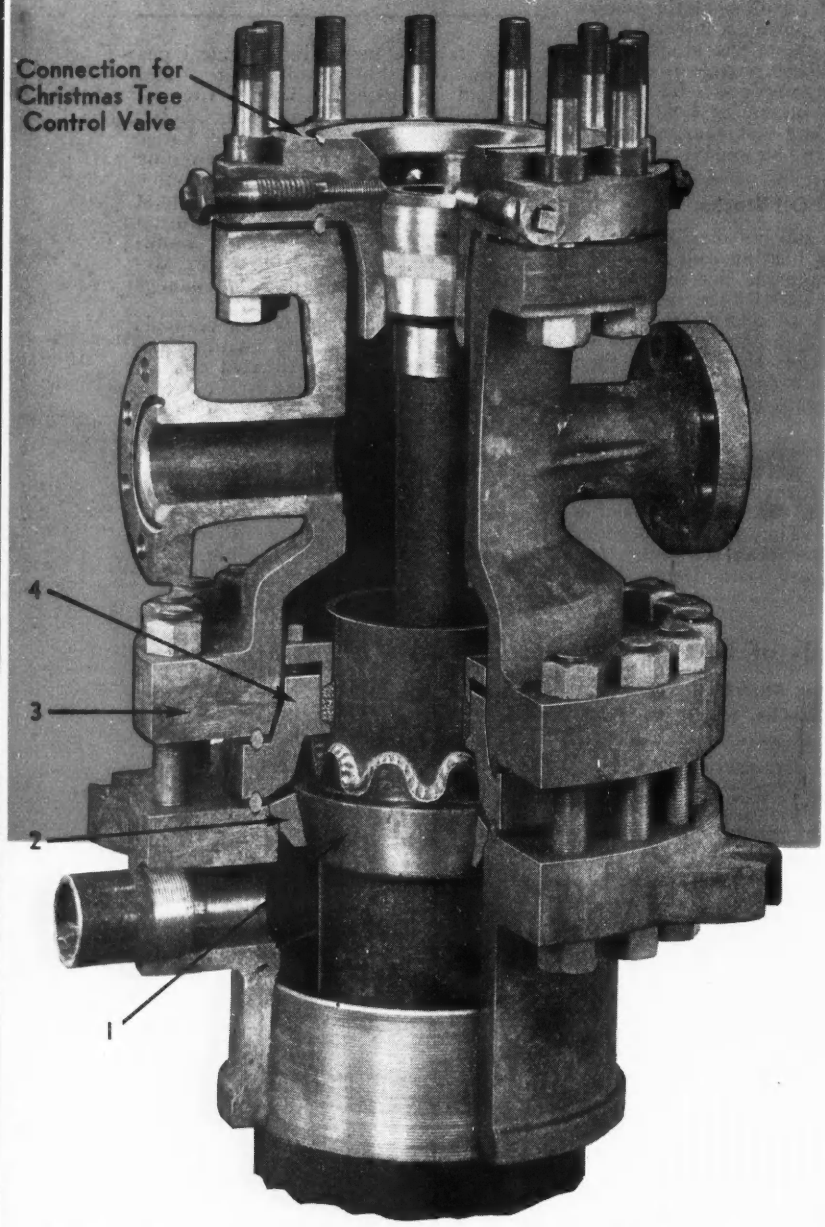
Trends of United States Production and Stocks

Figures are from American Petroleum Institute weekly reports, except those on crude stocks, which are from Bureau of Mines weekly reports

	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	FUEL OIL STOCKS	
					Gas Oil & Dist. Fuels	Residual Fuel Oil
1937						
August 28	**3,731,450	3,425,000	309,506,000	66,997,000	112,111,000	
September 25	3,666,300	‡3,455,000	307,974,000	65,620,000	116,472,000	
1938						
March 19	3,433,550	3,080,000	306,380,000	**93,192,000	122,067,000	
June 25	3,083,900	3,025,000	293,463,000	82,412,000	25,343,000	112,458,000
July 30	3,316,400	3,240,000	288,514,000	76,864,000	27,573,000	116,721,000
August 27	3,388,500	3,255,000	285,029,000	71,754,000	29,747,000	117,179,000
September 24	3,251,150	3,220,000	280,278,000	68,605,000	31,183,000	119,285,000
October 29	3,237,500	3,145,000	275,824,000	67,590,000	33,690,000	120,029,000
November 12	3,243,250	3,180,000	273,394,000	¶67,551,000	34,175,000	120,491,000
November 26	3,260,900	3,295,000	270,563,000	68,628,000	33,749,000	119,885,000
December 10	3,245,100	3,150,000	§269,509,000	68,587,000	32,068,000	118,711,000
December 31	3,201,450	3,115,000	273,024,000	71,695,000	29,082,000	115,741,000
1939						
January 28	3,248,250	3,235,000	271,763,000	77,279,000	26,583,000	112,766,000
February 25	3,328,850	3,185,000	271,758,000	84,597,000	23,419,000	110,252,000
March 25	3,382,350	3,225,000	273,915,000	87,561,000	21,487,000	107,551,000
April 22	3,526,700	3,280,000	277,156,000	*87,769,000	21,058,000	105,035,000
April 29	3,568,200	3,405,000	278,440,000	86,794,000	†25,844,000	†108,409,000
May 6	3,580,900	3,275,000	*278,607,000	86,216,000	26,167,000	108,597,000
May 20	3,438,400	3,460,000	277,068,000	84,294,000	26,389,000	109,405,000
May 27	*3,585,250	3,405,000	278,289,000	84,152,000	26,992,000	109,386,000
June 3	3,558,800	3,415,000	277,947,000	83,637,000	27,440,000	110,219,000
June 10	3,376,950	**3,510,000	274,692,000	82,716,000	29,357,000	111,239,000
June 24	3,452,800	3,430,000	272,297,000	81,733,000	30,239,000	111,726,000
July 1	3,463,000	3,480,000	271,567,000	81,102,000	31,230,000	113,388,000
July 8, 1939	3,529,800	3,420,000	.....	80,823,000	32,435,000	113,494,000
July 9, 1938	3,296,250	3,095,000	‡291,666,000	79,843,000	⊙	+
Change in past year	7.1%	+10.5%	—6.9%	+1.2%	+0.5%	—4.8%

** All time peak. * Peak for 1939. § Lowest for 17 years. ‡ Stocks, July 2, 1938.
‡ Peak prior to 1939. ¶ Lowest for year.
† Prior to April 29, 1939, data did not include stocks at terminals, in transit, etc., except in California.
⊙ Available data for year ago include only stocks at refineries, and not at terminals, in transit, etc., except in California. Those stocks on July 8, 1938 totalled 25,195,000 barrels, and comparable stocks on July 8, 1939 totalled 26,556,000 barrels, or 0.5% more.
+ Available data for year ago include only stocks at refineries, and not at terminals, in transit, etc., except in California. Those stocks on July 8, 1938 totalled 114,120,000 barrels, and comparable stocks on July 8, 1939 totalled 108,611,000 barrels, or 4.8% less.

WHY DID WE DO IT?



HERE ARE THE REASONS FOR THE NEW FEATURES of the BAASH-ROSS Type "W" CASING HEADS

WHY was the welding method chosen?

Because welding is today an accepted and approved method, and has been found to be much stronger than a threaded and coupled joint. Through the use of the welding ring (1) instead of slips there is no slippage, wedging action, or tendency to collapse the pipe.

WHY is the welding ring scalloped?

In order to place more weld in shear and to eliminate any possibility of line concentration of stress.

WHY are A.P.I. ring joint flanges (3) used?

They are being accepted universally as standard because they afford the safest, most effective sealing means, and promote interchangeability.

WHY is the welding ring seat (2) used between the casing head body and the welding ring?

Because it insures quick, positive release of the casing from the head without cutting or damage to the casing and casing head.

WHY the independent packing gland (4)?

It is easy to install, is a time-proved pack-off method which assures a positive seal, and it avoids depending upon an untested weld to hold the pressure.

WHY is the Baash-Ross Type "W" Casing Head more economical?

Because it is compact and has fewer parts, requiring less expense attendant upon its installation.

WHY does the Type "W" Casing Head simplify running and setting the inner casing?

The inner strings can be run, landed, and cemented through the well control equipment; no special nipples need be cut in order to spot the casing at the correct depth; only a minimum of time is required for work in the cellar with connections and lines.

WHY is it unnecessary to overstretch the pipe when a Type "W" Casing Head is used, and what is the advantage of this feature?

With this casing head, tension is always maintained in the string. This feature prevents kinking and buckling the casing, loosening of the joints, and damage to the cement job. No overstretch is required to properly position the suspension members and make the weld.

WHY IS THIS THE LOGICAL TIME TO OFFER THE TYPE "W" CASING HEAD TO THE INDUSTRY?

Because casing manufacturers now produce low-carbon, high tensile strength casing especially made for welding purposes.

For complete details write to Baash-Ross Tool Co., 5512 Boyle Ave., Los Angeles; Houston, Texas; Oklahoma City; Export Office, 30 Rockefeller Plaza, New York City; or

SEE PAGES 169 TO 174 OF THE 1939 COMPOSITE CATALOG

BAASH-ROSS

Type "W"

CASING HEADS

?HIS NEW, DEPENDABLE METHOD OF SUSPENDING ASING IS DESCRIBED IN DETAIL IN THIS

DEPENDABLE SOURCE

F INFORMATION . . .

BAASH-ROSS TOOL C

BAASH-ROSS TYPE "W" C

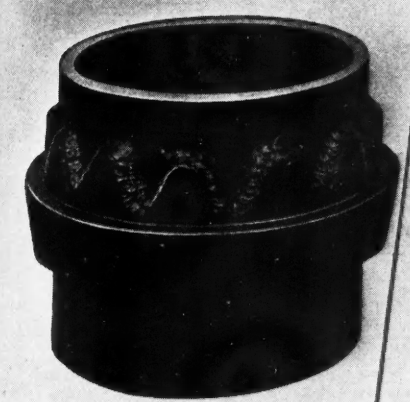


Fig. 2—Unretouched photo showing welding ring welded to 8⅝"—44.7-lb. A.P.I. Grade D Seamless casing, tested in tension to 430,000 pounds, without evidence of failure of the weld.

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the casing must be released from the head.
8. The solid ring packing assembly is installed as a unit above the welding ring after the string is suspended from the casing head. A packing gland in the upper end of the packing assembly packs off around

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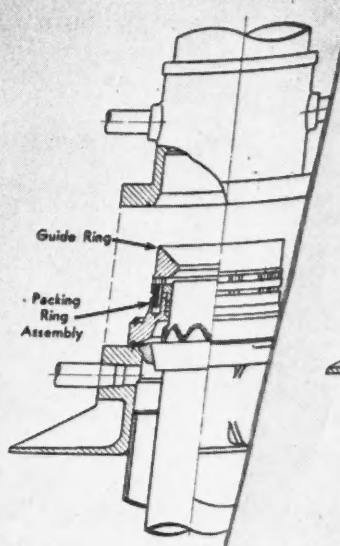

FIG. 9

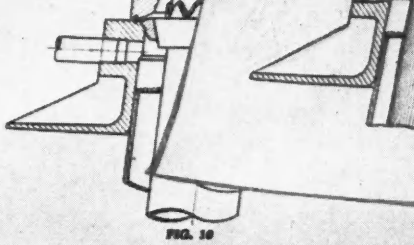

FIG. 10

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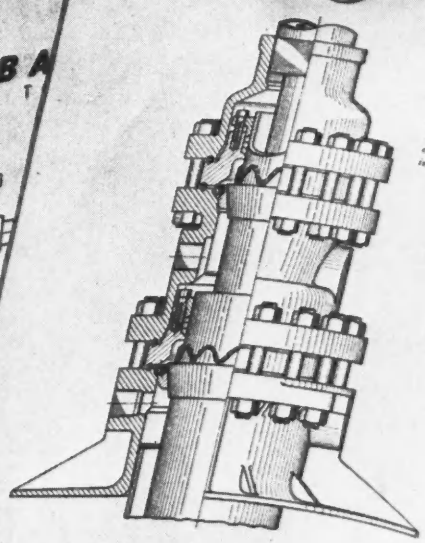
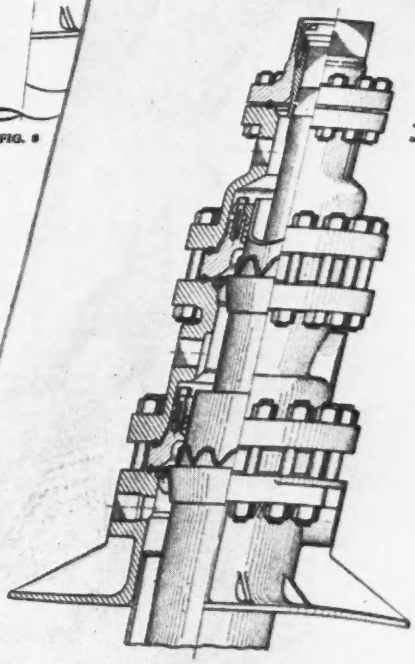


TYPE 2WA4
Fig. 16—Widely used 3-string hook-up equipped with flanged tubing head connection nipple.



TYPE 2WC4
Fig. 14—Exceptionally compact 3-string hook-up is obtained by use of integral tubing head.

TYPE W3B4
Fig. 19—Hook-up used when dispensation of production string is required. Packing is accessible and tubing head attaches directly to the production string.

Fig. 10—Well in finishing hook-up. ment and gu

BAASH TOOL CO

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BAASH-ROSS TOOL CO

1939 COMPOSITE CATALOG

its first pipe line outlet through completion of a 16-mile 5½-inch welded line from its Monument field station. First crude was handled July 6 by the new unit, which gathers and delivers the oil to Monument by gravity. The oil is handled for the account of Sinclair Prairie Oil Marketing Company, only buyer in the new pool, and will be delivered to Sinclair Refining Company's refinery at Houston.

Gulf increasing line capacity in West Texas

Greater facilities for the handling of oil from the Goldsmith field, West Texas, is being provided by Gulf Refining Company through the construction of a 10-mile 6-inch welded loop parallel to the company's 17-mile 6-inch Goldsmith - Judkins station unit. The rated capacity of the line will be increased 30 percent to 19,000 barrels daily.

Atlantic to take delivery on third big tanker

The third of The Atlantic Refining Company's new 18,100-ton welded tankers will be launched at the yards of Sun Shipbuilding and Dry Dock Company, Chester, Pennsylvania, on July 29. The new vessel will be christened by Mrs. E. J. Henry, wife of a vice president of The Atlantic Refining Company, for whom the vessel will be named.

Crude Production

United States output increased to 3,550,950 barrels; Illinois at peak with runs of 264,400 barrels daily

UNITED STATES production of crude oil during the week ended July 15 was at an average rate of 3,550,950 barrels. Bolstered by substantial gains in Texas, California, and Illinois production, the national average rose 39,025 barrels above the level of the previous week, and for the first time in six weeks exceeded the Bureau of Mines estimate of demand for domestic crude, the margin being 37,750 barrels. All indications point to a further widening of the gap next week.

Texas, with a normal increase of 10,450 barrels, reached an average of 1,351,900 barrels daily, 15,258 barrels over state quota and 74,600 barrels under the bureau's recommendation.

California produced 625,400 barrels daily, a 22,200-barrel increase over the week preceding and was above producer's self-imposed allowable by 30,400 barrels, and above federal recommendation by 30,200 barrels.

Changes in the Oklahoma allowable had their first effect as state production dipped to 455,400 barrels, off 11,025 barrels from the week before. State allowable was exceeded by 27,400 barrels but 700 barrels under federal allotment.

Louisiana gained 5150 barrels over the previous week, advancing to 277,000 barrels daily. This was 12,837 barrels above conservation figures and 12,500 barrels over the bureau.

A gain of 21,150 barrels advanced Illinois to a new all-time high at 264,400 barrels daily and brought the margin of excess over government quota up to 77,000 barrels.

Kansas held the pace of the previous week, dropping only 800 barrels to a 166,750-barrel daily average. State and federal allocations were over-run by 870 and 6450 barrels, respectively.

Texas to make water production survey

Operators of all wells in Texas have been ordered to file with the railroad commission by August 15 a report showing the status of all water wells and all wells not capable of making their allowable.

Such a survey is made in East Texas periodically, but this is the first time that it has been ordered on a statewide scale.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand (July)	State Allowable in July	BARRELS DAILY FOR WEEK ENDED July 15	July 8
TEXAS—				
Texas Panhandle			79,450	69,450
North Texas			86,500	86,900
West Central Texas			32,800	32,550
West Texas			226,350	219,950
East Central Texas			100,000	95,800
East Texas Field			377,500	385,500
South Texas			226,050	229,900
Texas Gulf Coast			223,250	221,400
Total Texas	1,426,500	1,367,158*	1,351,900	1,341,450
CALIFORNIA—				
Long Beach			45,900	48,100
Santa Fe Springs			28,200	28,600
Huntington Beach			25,900	26,000
Dominguez			17,450	18,000
Ventura Avenue			36,600	36,900
Midway-Sunset			54,800	47,700
Kettleman Hills			53,300	51,500
Wilmington			82,500	82,000
Others			280,750	264,400
Total California	595,200	595,000†	625,400	603,200
OKLAHOMA—				
Oklahoma City			102,025	103,900
Seminole Area			111,550	103,325
Fitts			22,875	26,350
Others			218,950	230,850
Total Oklahoma	456,100	428,000	455,400	464,425
LOUISIANA—				
North Louisiana			72,050	72,350
South Louisiana			204,950	199,500
Total Louisiana	264,500	264,163	277,000	271,850

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand (July)	State Allowable in July	BARRELS DAILY FOR WEEK ENDED July 15	July 8
ILLINOIS—				
Salem			133,500	131,900
Loudon			62,900	51,900
Other New Pools			60,000	52,450
Old Pools			8,000	7,000
Total Illinois	187,400		264,400	243,250
KANSAS—				
Burrton-Haven			10,325	9,900
Russell County			24,325	25,600
Silica			10,700	10,500
Others			121,400	121,550
Total Kansas	160,300	165,880	166,750	167,550
NEW MEXICO	116,100	116,100	108,250	113,250
EASTERN STATES—				
Pennsylvania Grade			68,500	71,250
Others, Eastern			3,200	5,850
Total Eastern States			71,700	77,100
MOUNTAIN STATES—				
Wyoming	73,200		63,300	66,200
Montana	16,100		15,850	15,200
Colorado	4,800		4,050	4,000
Total Mountain States	94,100		83,200	85,400
MICHIGAN	53,200		69,250	68,650
ARKANSAS	53,900		59,700	60,100
KENTUCKY	15,900		14,450	14,500
INDIANA	2,600		3,550	3,500
Total United States	3,513,200		3,550,950	3,511,852

*Daily average, considering Saturday and Sunday shutdowns, water exemptions, and exemption at Rodessa.
† Recommendation of Central Committee of California Oil Producers' Association.

WEEK'S DRILLING HIGHLIGHTS

Southwest Texas

Robstown prospect's first wildcat gave Nueces County a new Frio sand pool and assured an immediate drilling campaign. In the same county the Richard King sector of Bentonville field got a mile northwest extension. Jim Wells County reported a new Frio pool on the Wade City structure—probable producers for the north and west offsets to the Reynolds field discovery well—and a mile extension and new gas-distillate sand for La Gloria. East Mathis got a 2-mile extension and a new sand.

Texas Gulf Coast

Chocolate Bayou prospect, Brazoria County, looks like the district's next discovery, a wildcat having logged 25 feet of Frio oil sand. Small showings were obtained in a test at Addicks, Harris County. Two outposts at Fairbanks looked like producers.

North Texas

Southwestern Cooke County added a shallow pool 1½ miles south of the Voth Ellenberger field, a south extension of which this week did 100 barrels daily. Walnut Bend, same county, got a third pay horizon. Bonita, Montague County, got a second pay.

Arkansas

Cotton Valley series failed to produce at 6955 feet in an important wildcat southwest of Magnolia field, Columbia County, but the third well in Atlanta field, same county, is showing for a lime producer at 8186 feet. Stamps field, Lafayette County, recorded the fourth producer.

Comparison of Permits Granted for New Wells

STATE	Week Ending July 15	Total this Mo.	Total this Year	Total this Date Last Year	1938 Year Total
Arkansas	8	15	129	139	247
California	19	44	541	669	1,146
Louisiana	28	61	683	724	1,214
Kansas	27	51	801	853	1,453
Michigan	27	53	712	407	953
Oklahoma	25	79	1,125	1,114	1,978
Texas	228	395	6,783	7,387	12,369
Total	362	698	9,620	11,293	19,360

California

Greeley, Kern County, got a southwest extension and a new Rio Bravo sand when an 1800-barrel well was completed at 11,942 feet.

Michigan

Walker, Kent County, was extended northwest by a flowing Traverse lime well. Four miles west of the field, but in Ottawa County, a wildcat produced commercially; ½ mile west of Walker another made a small pumper. Columbia, Van Buren County, was extended ½ mile south.

Rocky Mountain

A northeast extension of Sundance production in Lance Creek, Wyoming, provided a new high on that end of the structure. A wildcat on Big Piney structure, Sublette County, Wyoming, reported heavy gas shows and continued drilling.

North Louisiana

A mile southeast of Sligo field, Bossier Parish, a wildcat logged gas-distillate saturation in Pettitt lime topped at 5067 feet. A northeast outpost of Sibley, Webster Parish, failed to show in Glen Rose.

Oklahoma

An extension three quarters of a mile to the southeast in Simpson Dolomite was recorded for St. Louis field, Greater Seminole area. Wildcats fared badly, as one was abandoned in Grant County and another in Pittsburg County; both penetrated Wilcox sands. A second well for Hobart, Kiowa County, found saturation in Viola lime, but it is low on structure.

Kansas

In Rice County there were 2 extensions for Chase and one each for the Barnholdt and Wherry fields. Ellsworth County registered an extension for Stoltenberg. In Stafford County there was one for Sittner. Russell County had two, Balta and Gurney. The wildcat showing of two weeks ago in Cowley County established its potential and the area was designated the Brown pool.

Illinois

Pumping 75 barrels daily, an outpost extended the McClosky section of Lake Centralia-Salem pool ½ mile. A Carmi Township wildcat which found McClosky dry was completed in Cypress sand. Production from Tar Springs sand stretched the Griffin pool of Gibson County, Indiana, over into Mt. Carmel Township.

Summary of Wells Completed in the United States Week Ending July 15, 1939

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total 1939	Total this Date 1938
Alabama	....	....	....	....	.....	1	2
Arkansas	5	5	....	....	2,585	124	128
California	15	13	2	....	6,646	560	675
Colorado	....	....	....	....	.....	12	5
Florida	....	....	....	....	.....	....	....
Illinois	51	43	....	8	22,023	1,958	636
Indiana	....	....	....	....	.....	86	70
Kansas	27	19	1	7	34,862	715	986
Kentucky	20	8	....	12	495	335	409
Louisiana	22	12	....	10	3,198	545	621
Michigan	46	27	4	15	11,660	768	468
Mississippi	....	....	....	....	.....	4	11
Montana	6	2	1	3	305	68	32
Nebraska	....	....	....	....	.....	....	1
New Mexico	16	12	....	4	6,780	341	280
New York	16*	16*	....	....	62	272*	413*
Ohio	19	3	9	7	147	474	504
Oklahoma	38	19	3	16	1,822	1,125	1,205
Pennsylvania	53*	44*	5	4	59	756*	1,306*
Texas	172	114	9	49	85,752	5,323	7,193
Utah	....	....	....	....	.....	....	2
West Virginia	14	2	10	2	10	262	383
Wyoming	1	....	....	1	.....	67	56
Total this week	521	339	44	138	187,406	13,795†	15,142†‡
Total last week	563	387	35	141	222,998	13,275†	14,679†‡
Total this year	13,795†	9,402	979	3,414	11,134,100	.....	.....

* Includes water-input wells. † Includes 1 Georgia completion. ‡ Includes 2 Tennessee completions.

Kansas Field Developments

Cowley County wildcat produces from Arbuckle pay. Pospishel pool is opened four miles north of Otis.

Wichita.—Two recent wildcat strikes in Kansas were given new pool ratings last week. The wildcat in Cowley County, north of Hittle, made potential of 612 barrels from Arbuckle lime. It is the Hartman & Blair test, Brown 1-A, SEc NW 33-30-4e. The showing 4 miles north of Otis was designated the Pospishel pool, name of the lease in NW SE Section 20-17-15w on which Republic Gas Company had potential of 47 barrels from Arbuckle lime at 3564 feet. Later, however, the hole was deepened to 3574 feet and it swabbed at the rate of 13 barrels an hour. This would indicate that the well is not yet completed.

Five Pools Extended

Outstanding in the Kansas development for the week was the list of extensions for five old pools. Two of these were marked up for Chase, Rice County. Both Barnholdt and Wherry, also in Rice County, had extensions. The Stoltenberg pool, Ellsworth County, Sittner, Stafford County; Balta and Gurney, Russell County, had wells that gave assurance of extensions.

Tubing is being run in preparation for a potential test in the Misener sand oil discovery in Medicine Lodge gas field, Barber County. A week ago Holes 3-A of Barbra Oil Company, S½ N½ SE Section 15-33-13w, flowed 360 barrels in 8 hours from a saturated section between 4858 and 4868 feet. The field has one other oil well, a Viola lime producer ½ mile southeast.

Potential of 612 barrels was established for the discovery well in the Brown pool, Cowley County. Hardman & Blair drilled Brown 1-A, SEc NW 33-30-4e, into the lime to 3381 feet 10 days ago, top 3379 feet. It flowed 18 barrels an hour at this depth. Later tubing was run and the hole drilled to 3385 feet. The well flowed and swabbed as much as 100 barrels an hour. The potential rating was by flowing and swabbing. One well is drilling south of the discovery.

The field is 3 miles south of the Rock pool and 3½ miles north of the Hittle pool.

New-pool designation has been given the Arbuckle lime production in the wildcat 4 miles north of the Otis field. Republic Gas Company had only 47 barrels potential from Arbuckle lime, total depth 3564 feet in Pospishel 1, NW SE 20-1n-15w, Barton County. The pool has been named Pospishel. Later the hole was deepened to 3576 feet where it made 20 barrels in 16 hours.

Western Kansas Extensions

Extensions were numerous in the Western Kansas area last week.

A half mile northwest of Chase and between the Campbell and Midway fields, Phil-Han Oil Company, Peterson 1, C WL SW NW 4-20-9w, made potential of 448 barrels from Arbuckle lime 3242 feet. It is classed as an extension for the Chase field. North of the Chase field Carey Drilling Company and Derby Oil Company established potential of 290 barrels in Link 1, SWc SE 19-19-9w, in Arbuckle lime between 3277 and 3291 feet.

A mile south of the Wherry field, Rice County, C. L. Carlock et al had 3200 feet of oil in the hole in Buer 1, C WL SW SW 23-17-7w, at 3401 feet in the conglomerate. Pumping equipment is being installed for a test.

A test will be made west of production in the Barnholdt pool, also in Rice County, where Continental Oil Company has set casing in Carlson 1, SE NE NE 36-20-6w. Top of the Chat was at 3396 feet and casing was set at 3397 feet.

A hole full of oil from Arbuckle lime at 3292 feet gave hope of extending the Stoltenberg pool, Ellsworth County, ¾ mile southwest. I. W. Murfin et al had the showing in Loula 1, NWc SE 28-16-10w.

Indications of an extension ¾ mile southwest for the Sittner pool, Stafford County, came with swabbing of 10 barrels an hour in Sittner 1, NE SW SW 3-22-12w, where Stanolind Oil & Gas Company drilled to 3635 feet in Arbuckle lime.

An extension for the Balta pool, Russell County, was promised by Phillips Petroleum Company. A fourth of a mile west of production casing was set in Deines 1, C SE NE 30-13-14w, where top of the Arbuckle lime was found at 3305 feet.

A half mile south of production in the Gurney pool, Russell County, Stanolind Oil & Gas Company established potential of 2980 barrels from Lansing-Kansas City lime, total depth 2980 feet in Krug 1-B, C N½ N½ SE SE 27-14-14w.

Another test for the Kansas side of the Forrest City basin was assured last week by Hawn et al, whose Wischmeirer 1 has rig building in NWc SW 6-18-16e.

Two Arbuckle lime wildcat tests were abandoned last week. In Rice County Hannun Drilling Company went to 3720 feet in Price 1, C SL N½ NE 29-20-7w. In Harvey County Western Kansas Oil & Refining Company abandoned Moorehead 1, SWc 24-23-1w, at 3630 feet in Arbuckle lime.

Kansas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Barton County—		
Broswood & Wakefield, Rude 1, nw se ne 2-16-13w	*	3388
Shell, Bitter "B" 4, cs½ s½ se 6-16-13w	2463	3366
Butler County—		
Adair & Morton, Rant 3, se nw sw 14-28-7e	*	3127
Cowley County—		
Texas, Goodrich 5, sw sw se 21-31-4e	5694	3292
McKnab & Blair, Hittle 4, se se ne 21-31-4e	2504	3299
Ellis County—		
Dickey, Henderson "B" 1, se se sw 6-11-17w	7078	3473
Darby, Henderson 2, ne ne nw 7-11-17w	2566	3474
Cities Service, Rumsey 10, ne nw se 23-11-17w	3500	3418
Central, Hadley 4, ne ne se 12-11-18w	2221	3358
Finney County—		
Atlantic, Gobleman 1, cne se 27-21-34w	1724	4679
Greenwood County—		
Oko, Lovett-McNeil 13, se se sw 22-23-13e	1	1755
Reed, Souder 1, se se nw 31-25-13e	25	1597
Haskell County—		
United Ill. Life, nw nw nw se 31-29-34w	‡31	2737
Johnson County—		
Judd, Smoot 1, cn½ sw se 4-15-25e	*	732
Marion County—		
Tide Water, Junghanns 1, se se se 23-18-5e	*	2303
McPherson County—		
Nadel & Cussman, Drum 7, cn½ n½ ne 35-19-2w	90	2944
Continental, Mattson 1, cw½ w½ nw 31-20-5w	773	3297
Rice County —		
Weaver, Handy 2, cw½ nw se 30-19-9w	*	3340
Bradley, Ruhl 1, ce½ ne nw 24-19-10w	*	3352
Nelson Drlg, Hodge 1, nw nw ne 25-26-6w	442	3338
Shell, Welch "A" 1, near c se nw 1-20-8w	*	3428
Garden & Spencer, Oden 6, cw½ e½ nw 15-21-7w	274	3336
Russell County—		
Wolf Creek, Rouback "B" 2, ne ne nw 15-14-15w	1514	3252
Coralena, Dumler 2, ne ne nw 36-15-14w	1826	3296
Stafford County—		
Stanolind, McComb 2, se sw sw 12-24-11w	446	3761
Hartnett 10, cn½ nw nw 13-24-11w	539	3772
Sin-Pra, Krey 10, cn½ ne ne 14-24-11w	1182	3772

*Failures; †Junked; ‡Million cu. ft. gas.

Kansas completions for week have high average

Wichita.—Wells completed in Kansas last week revealed high percentage for oil wells and high initial output. The state had 31 wells completed, 19 being oil producers with combined initial output of 34,862 barrels, 1 gas well, 7 dry holes and 4 abandoned locations. The 27 wells started were in the following counties: Butler and Cowley, 4 each; Barton, Ellis and Russell, 3 each; Rice, 2; 1 each in Barber, Greenwood, Harvey, Haskell, Johnson, Sedgwick, Stafford, and Sumner.

West Virginia drilling permits show gain

Charleston, W. Va.—West Virginia drilling activity, as reflected in permits issued by N. P. Rhinehart, chief of the state department of mines, gained sharply in May over the preceding month and made a small gain over the corresponding month a year ago.

The month's 77 permits were 87.8 percent over the 41 issued in April, and 1.3 percent over the 76 issued during the same month a year ago. Total permits issued during the first five months of this year, numbering 218, are 12.4 percent under the 249 issued during the corresponding period last year, and 42.4 percent under the 378 issued during the same period two years ago.

May permits by counties follow: Boone 4, Braxton 9, Cabell 6, Calhoun 5, Clay 4, Doddridge 3, Gilmer 4, Harrison 1, Jackson 1, Kanawha 6, Lincoln 10, Logan 2, Marshall 1, Pleasants 5, Putnam 1, Ritchie 8, Roane 2, Wayne 3, Wetzel 1, Wirt 1.

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Oklahoma wildcatting spotted with small pool discoveries, new deep horizons and extensions

ALTHOUGH the first half of 1938 registered a slightly increased number of Oklahoma wildcat completions over the same period for 1939, tests finding oil this year totaled 16 as compared with 11 for the previous year. One hundred and seven wildcats were completed during the first 6 months of last year, 11 making oil, 12 gas, and 84 were dry. For the same period this year 95 wildcats have completed, 16 for oil, 5 gas, and 75 dry. These completions were scattered throughout the state, with oil and gas discoveries located in 14 counties.

All of the spot openers have proven small in extent with recent dry holes discouraging possible expansion. Southwestern Oklahoma contributed the latest and most outstanding pool opener as Russell S. Tarr and others drilled in Watkins 1, SWc NW 20-7n-17w, Kiowa County, estimated flow varying from 1000 to 1500 barrels of 35-gravity oil daily from lime (Viola as near as can be intrepreted). Surface geology was largely instrumental in this discovery, a flat nosing being disclosed on a northwest-southeast trend. The pressure and oil flow blew the tools from the hole, bottomed at 1055½ feet, and the well headed oil flows at intervals before a bradenhead was installed. It is estimated the test has made more than 6000 barrels to date, initially through the casing and latter flow through 2-inch casing, majority of the crude being run into earthen pits before tankage was erected. The best flow gauged was 100 barrels per hour through casing. Two miles southwest of Watkins 1, C. M. Beckett's Standerfer 1, NEc 27-7n-18w, missed Viola lime pay and drilling was halted at 1200 feet. This latter test was discouraging but certainly does not condemn the area for future drilling.

Two new pools, East Searight in Seminole County and West Doyle in Stephens County, have been so designated by the Standing Committee on Oil Field Nomenclature of Oklahoma. A Cromwell producer, H. S. Moss' Leachman 1, C N½ SE NE 34-10n-6e, Seminole County, was completed for the discovery well flowing 595 barrels daily after plugging back to 4264 feet from 4630 feet. To date it is a 3-well pool with 2 dry offsets. An offset 2 locations north of the discovery well was completed as C. L. McMahon's Haite 1, C NL NEc 34-10n-6e, flowed 85 barrels from Cromwell topped at 3791 feet. Between these producers H. S. Moss drilled a dry hole to 4387 feet in Haite 1, C WL SE NE NE 34-10n-6e and an east offset was dry as Magnolia Petroleum Company abandoned Harjo 1, 160 feet east of SW NW NW 35-10n-6e, at plug-back depth of 3781 feet. Moss completed a third test, a west offset, in Harjo 1, C N½ SW NE 34-10n-6e, for 100 barrels and is drilling Leachman 2, C SL SW SE NE 34-10n-6e, south of the discovery well. Should this make a producer, possible extension lies to the south, west and north. The freak dry hole between the 2 producers indicates small folds superimposed upon a larger structure.

Phillips Petroleum Company gave Stephens County a new pool, West Doyle, near the Cruce structure, in Culbertson 1, initially flowing 1071 barrels from Deese sand topped at 5578 feet and now producing regularly at 275 barrels. A northeast diagonal offset, Coombs 1, SE SW NE 4-1n-5w, was nearing prospective pay horizon, being the only offset staked.

Near Newalla, Oklahoma County, E. M. Eldridge's White 1, discovery well for the area, has produced to June 19 a total of 5854 barrels of crude, the test making an initial potential of 175 barrels and cutting some 20 percent water. The well is now flowing an average of 75 barrels of oil daily through tubing. This test was drilled to 6610 feet in dry Wilcox and plugged back to 6095 feet to test saturated Hunton lime topped at 6002 feet, which proved commercial production. The well has been cutting water and fluid, averaging 15 percent, since its discovery and operators have withheld acidizing operation.

A new deep horizon in the old Chickasha gas pool, Grady County, was unveiled as Carter Oil Company and others Smith 1, C SE SW 26-5n-8w, after perforating up the hole successively from 5495 to 6475 feet with 813 shots, gauged over 13 million cubic feet of gas from several sands. Rock pressure measured 1880 pounds per square inch. Several oil shows were encountered at various depths but none commercial. Previous production has been from 2 sand zones, Nicholas at 1200 feet and Ramsey from 2000 to 2500 feet, both sands nearing depletion rapidly.

Indian Territory Illuminating Oil Company and others' Fillmore 1, SWc SE 36-2s-19w, Frederick pool of Tillman County, found new pay in lime, thought Siliceous, at 5135 feet. Past production for the area has been Canyon lime had from 4400 to 4555 feet.

Oklahoma Wildcats Completed for Oil or Gas in 1939

COUNTY	Operator and Well	Location	Formation	Type Discovery	Depth	Potential (Barrels)	Gas (Cubic Feet)
Creek	Burke-Greis Oil Co. et al's Vanderslice 1	NEc SE 30-14n-7e	Prue	New spot (Not Named)	2884	...	4,000,000
Garfield	Hughes Drilling Co.'s Meisner 1	C NE NW 10-20n-4w	Second Wilcox	Extension (Brown pool)	5944	105	.....
Garvin	Kerr-Lynn Oil Co.'s Butterly 1	NEc SE 22-1n-1e	Prue	New spot (Not Named)	5005	...	2,660,000
Grady	Carter Oil Co. et al's Smith 1	C SE SW 26-5n-8w	Sands	New horizon (Chickasha Gas pool)	6613	...	13,180,000
Kay	E. J. Shaffer et al's Onstott 1	NWc NE 17-28n-1w	Oswego	Extension (S. Braman pool)	3668	25	.....
Kiowa	Wichita Oils' Mace 1	SWc 11-5n-15w	Sand	New spot (Not Naned)	133	1	.....
	Russel S. Tarr's Watkins 1	SWc NW 20-7n-17w	Lime	New spot (Not Named)	1055½	1000–1500	.....
Lincoln	Fields & Nagle's Black 1	SEc 31-16n-6e	Mayes	Extension (Skellyville pool)	3980	40	.....
Oklahoma	E. M. Eldridge's White 1	C NE NE 30-11n-1e	Hunton	New spot (Not Named)	6095	175	.....
Osage	Charles Petroleum Co's. Osage 1	C N½ NW SW 10-28n-11e	Peru	New spot (Not Named)	993	102	.....
	I. T. I. O. Co's. 1	NWc SE 26-25n-6e	Skinner	New spot (Not Named)	2741	35	.....
Payne	Starr Oil & Gas Co.'s Georgia 1	SE SW NE 35-18n-4e	Prue	New spot (Not Named)	3494	...	1,880,000
Potawatomie	Wood Oil Co.'s Peters 1	SW SE NW 28-8n-4e	Hunton & Misener	Extension (St. Louis pool)	3895	70	.....
	Alma Oil Co.'s Johnson 1	SW NW SW 19-6n-5e	Earlsboro	New spot (Not Named)	3019	110	.....
Seminole	Atlantic Refining Co.'s Atkinson 1	NWc SW 17-6n-6e	Dolomite	Extension (Konawa pool)	3819	17	.....
	H. S. Moss' Leachman 1	C N½ SE NE 34-10n-6e	Cromwell	New pool (E. Searight pool)	4264	595	.....
	Atlantic Refining Co.'s Jimmey 1	SE NW NE 21-7n-6e	Wilcox	Extension (Little River pool)	4417	768	.....
Stephens	Phillips Petroleum Co.'s Culbertson 1	NWc SE 4-1n-5w	Deese sand	New pool (West Doyle)	5616	1,071	.....
Tillman	I. T. I. O. Co. et al's Fillmore 1	SWc SE 36-2s-19w	Lime	New horizon (Frederick District)	5135	400	.....

Oklahoma Fields

Greater Seminole leads state in drilling activity.

Extension attempts at Calvin and Norman look bad.

Tulsa. — It has been a dozen years since the fields that make up Greater Seminole ran up a daily output that overtaxed the pipe line facilities of Oklahoma, brought on a price decline and in general so acquitted themselves that proration became a part of the business of producing oil. Still it is Greater Seminole which leads Oklahoma today in drilling activity. Only last week an extension of a mile southeast gave St. Louis field, Pottawatomie County, another boost for expansion and left assurance that the Seminole area will continue to hold its position in Oklahoma field activity.

What Greater Seminole means in field work can be appreciated by a study of drilling wells, rigs, derricks and locations. There are 453 of these in Oklahoma and 219 are in the Greater Seminole area.

Last week gave scant encouragement that other new areas are in prospect for Oklahoma. A Grant County wildcat was abandoned. A Carter County wildcat continued to make oil on swabbing tests. Extensions for the Calvin Field, Hughes County and the Norman Field, Cleveland County, were not abandoned, still their output was not sufficient to warrant completions for commercial purposes. A deep wildcat in Pittsburg County was abandoned.

Further development of the St. Louis pool, Pottawatomie County, was assured last week by completion of a flowing well from Simpson dolomite, ¾ mile southeast of production. T. E. Iglehardt et al drilled Keiner 1, NEc SE 4-6n-5e, to 4071 feet. First saturation was found at 4044 feet. On open flow it produced at the rate of 1650 barrels daily. Later it was pinched in to 20 barrels an hour.

There is a dry hole across a 40-acre lease to the northeast of the extension.

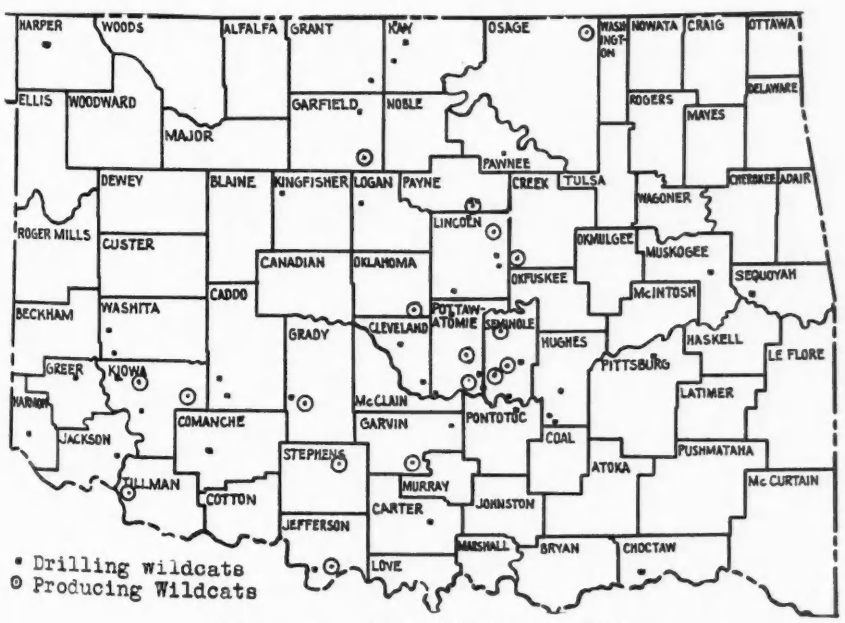
This extension assures the Greater Seminole area of holding its place in Oklahoma field activity over the next few months. A recent check of drilling showed this area to have 219 of the 453 wells, rigs and locations in Oklahoma. There are 131 drilling wells in the several Seminole fields and St. Louis leads in the area. Development through extensions, plugging back and deeper drilling has been so successful at Seminole that its production has climbed more than 10,000 barrels daily within a year.

Success of the extension well indicates that output for St. Louis will pass 40,000 barrels daily.

Status of the second well for the Hobart field, Kiowa County, remained in doubt last week although Shell Petroleum Company had oil in Ratliff 1, SEc NE 19-7n-17w. The test is a west offset to the first producer but saturation was found substantially lower than in the discovery well. The test is in Viola lime, total depth 1096 feet with 7-inch casing set at 1040 feet. The discovery well had oil in the Viola lime between 1049 and 1055 feet, where it flowed as much as 100 barrels an hour previous to cementing pipe. It has been shut in since completion the latter part of May.

Top of the Viola lime has not been determined in the west offset, which showed 1¾ bailer of oil an hour previous to setting pipe. It is likely that the formation will be given acid treatment when the plug is drilled.

Northwest of the discovery well in the field Lewis & Meyers are drilling Ford 1, NEc SE 14-7n-18w. The well was below 300 feet last week. This test followed a sale of school land tracts by the state. East of the discovery well, Super Oil Company has taken a farmout of 1650 acres from Carter Oil Company and will drill a state lease, location being NEc SW 36-7n-16w. This test is near the old Gotebo district, which has small production.



Wildcat discoveries in Oklahoma in 1939.

Carter County Well Still in Doubt

The week brought no change in the status of the Carter County wildcat of Pure Oil Company, Noble 1, C NE SE 35-3s-1e. After treating the formation with acid through perforations between

Oklahoma Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Carter County—		
Jay Bee, Potts-McCrory 1, se se ne se 8-1s-2w	4	280
Potts-McCrory 2, se se ne se 8-1s-2w	1½	282
Raizon Bros., Smalley 3, w½ nw nw ne 16-4s-3w	18	1399
Creek County—		
M. Strozier, Anthis 1, ne ne ne 12-16-11e	*	1191
Sin-Pra, S. Dacon 37, ne nw ne ne 16-17n-7e	50	2807
Chamblin, Harjoche 1A, ne ne ne 21-17-9e	*	3320
Weimpr & Vierson, Tiger 1, nw ne sw 31-17-10e	*	3066
Grimes & Heal, Foster 3, cw½ ne nw 14-19-9e	10	2218
Harmon County—		
Ruso Drlg, Abernethy 1, csw	*	2802
Hughes County—		
Continental, Hudson 1, se se se 8-4n-9e	*	6530
Jackson County—		
Burk Roy, Holt 1, se sw ne 32-1n-19w	*	2723
Ray et al, Ronald 3, ne sw nw 5-1s-19w	184	2572
Kiowa County—		
Beckett, Standerfer 1, ne ne ne ne 25-7n-18w	*	1275
Lincoln County—		
Mason & Nucholls, Lindsey 1, sw se se 26-12n-3e	*	5560
Cooper, Blaney 1, sw sw nw 13-14-5e	*	3859
Muskogee County —		
Pine, Cable 5, nw se ne ne 16-14-17e	¶5½	1375
Okfuskee County—		
Hyer, Board 2, sw se nw 10-13-10e	60	2667
Oklahoma County—		
I. T. I. O., Canfield 4, nw se sw 19-11-2w	595	3085
Canfield-Button 4, sw ne sw 19-11-2w	*	3700
Brokaw "C" 5, se se ne 13-11-3w	6	4094
M.K.&T. "B" 2, s½ ne se se 34-12-3w	218	6406
Transwestern, Meeker 2, ne nw nw 29-13-3w (pb from 6828 ft)	37	6575
Okmulgee County—		
Hass, Colbert 16, ne ne sw nw 15-14-14e	*	1196
Pontotoc County—		
Hatcher, Sutton 1, ne se ne 24-5n-4e	20	2390
Pottawatomie County—		
Conley, Sanders 1, nw se nw 20-7n-4e	60	4314
Trigg & KGFF, Rhodd 1B, cn½ se se 32-7n-5e	72	3160
Sunray, Fleet 2, se sw sw 12-6n-5e	¶1½	3000
Seminole County—		
Sunray, Swan 4, se se se 12-6n-5e	125	3790
Superior, Tiger 1, nw se se 12-6n-5e (owdd)	64	3807
Magnolia, Jimka 1, nw nw sw 22-7n-5e	45	2789
Evans, Swan 3, ne nw se 33-7n-6e	45	2907
Wood, Tiger 3, se nw se 2-8n-6e	208	4171
Moss, Leachman 2, ce½ e½ 34-10n-6e	*	3756
Stephens County—		
Ellis, Tucker 1, ne sw nw 22-1s-5w	¶3¼	670
Kiester, Smith 1, nw ne se nw 13-2s-4w	*	710
Pace, Parker 1, s½ ne ne se 11-2s-8w	*	2272
Tulsa County—		
Sindorf, Depriest 1A, se se ne 35-17-12w	*	300
Wagoner County—		
Gartner, Dockery 1, cse sw 27-18-17e	*	925

*Failures; †Junked; ¶Million cu. ft. gas.

4150 and 4234 feet it continued to swab 100 to 125 barrels a day. Production is classed as coming from the Sycamore lime, which is not an established source of oil. The test was drilled to Arbuckle lime, which tested salt water, then plugged back to Viola lime, which also tested salt water. The second plug-back and perforations brought a showing which has made some flows by heads but most of the output has been on the swab.

Neither was there improvement in the performance of the second well for Calvin field, Hughes County. Phillips Petroleum Company will run tubing in Shemwell 1, C SE NW 8-5n-10w, to strive for output from the Viola lime between 5568 and 5595 feet. It is ¼ mile north of Beeker 1, which has been making oil and water from Viola lime for more than a year.

A mile southeast of the discovery well W. A. Delaney et al have started drilling Foster 1, NW NE NE 17-5n-10e.

The Grant County wildcat, 3 miles north of the small Lamont field, went into the dry-hole classification last week when the third series of perforations showed salt water. Carter Oil Company drilled Staggers 1, C W½ SE NW 4-25n-3w, to 5528 feet. On the top of the Simpson dolomite it was 140 feet higher than the Lamont field. A few stains of oil and slight evidences of gas were found in cores through the Wilcox sand section. First perforations were between 5302 and 5313 feet and water rose to within 700 feet of the top. The final perforations were between 5250½ and 5056 feet and water rose 3000 feet in the hole.

Pittsburg County had a dry hole in the Wilcox sand last week. Phillips Petroleum Company drilled Hubacher 1, C NW NE 11-7n-15e to 7729 feet. No evidence of accumulation was found within the Simpson series.

Acid failed to change the status of the Cleveland County wildcat of Nels Burton et al, Boggs 1, NEc SE 16-9n-2w, which has had showings in perforations between 7330 and 7375 feet, after plugging back to 7646 and setting pipe at 7473 feet. After introduction of acid it swabbed small amounts of oil along with drilling fluid and acid water.

A wildcat in this county, Hall-Briscoe, Inc.'s Mantooth 1, NWc 24-6n-1e, had a small show from Viola lime topped at 5952 feet but drilling continued and the bit is now below 6000 feet. Cleveland County drew its third test last week when Sinclair-Prairie Oil Company started moving in for Ward 1, SEc 30-7n-1e.

Oklahoma starts lag

Tulsa. — Locations dropped behind completions in Oklahoma last week. Field reports showed 39 wells completed, 19 being producers, which had total initial output of only 1822 barrels. There were 3 gas wells, 16 dry holes and 1 abandoned location. Only 25 wells were started in the following counties: Pontotoc, 6; Pottawatomie and Seminole, 3 each; Jackson and Stephens, 2 each; 1 each for Alfalfa, Carter, Kay, Lincoln, Murray, Noble, Payne, and Pittsburg.

Illinois Developments

Old Lake Centralia well deepening to test Devonian.

McClosky area of Salem is extended half mile north.

Mattoon, Ill.—On the northern edge of the Lake Centralia-Salem pool of Marion County, Martin's Bowden 1, S C SW SW 10-2n-2e, an old McClosky lime well that pumped dry, was deepening with cable tools for the second test of the Devonian formation in that pool. It was at 2900 feet, with the formation expected at 3300 to 3400 feet. Only other Devonian test in the pool was by Kingwood Oil Company several months ago on the extreme southern edge of the pool. It was dry.

With daily production soaring every week and much oil selling at distress prices, major companies interested in the pool are anxious to withhold exploration of deeper formations until the market is able to absorb the additional production that may result. While the Bowden deep try is being closely watched, its failure would not discourage future deep drilling in the area as it is an extreme edge test.

The Texas Company's R. Shanafelt 1, SW SE SW 9-2n-2e, was completed at 2156 feet to extend the McClosky producing area of the pool ½ mile to the north. Its initial pumping production was 75 barrels daily.

In Richland County, Roy Wilson et al's (Kitchen & Wilson's) Wilson 1, SE SE SE 13-3n-9e, was dry in the McClosky, topped at 3040 feet, and was abandoned at 3100 feet.

A White County wildcat that has been worked for many weeks after finding the McClosky dry, was successfully completed in the Cypress sand. Mazda Oil Company's Carmi Orphanage 1, SE SE NE 22-5s-9e, Carmi Township, had been drilled to 3013 feet. No results were obtained when casing was perforated opposite the Cypress, but following a time shot later it swabbed free oil at the rate of 75 barrels a day.

Across the Wabash River from the Griffin pool of Gibson County, Indiana, Clyde Washburn's Pfeifer 1, SW SW SW 13-1s-13w, Mt. Carmel Township, was completed in the Tar Springs sand, below 1940 feet, for an initial pumping production of 48 barrels daily. Having been drilled to 2580 feet, this well is classified as a wildcat as far as Illinois is concerned but apparently affords an extension to the Griffin pool on the Indiana side of the river. It topped the Cypress at 2263 feet, the Benoist at 2385 feet and McClosky at 2556 feet. It was given 10-quart and 20-quart shots in the Cypress after drilling out between 1930 and 1955 feet.

Six miles southwest of the Griffin pool, T. C. Chism's (J. W. Pearson et al's Boultinghouse 1, SW SW 10-4s-14w, Phillips Township, was reported to have cored Cypress sand saturation between 2626 feet and 2639 feet. Casing was being set to 2612 feet, and oil was reported to be rising in the hole. Its outcome is being closely watched in view of the heavy Cypress sand production obtained on the Indiana side of the Griffin pool.

Kingwood Oil Company and Wisers Howe 1, SE SE SE 7-10n-4e, Clarksburg township, Shelby County, was testing an oil show in the Benoist, topped at 1750 feet, after plugging back from 2454 feet. The wildcat is 8 miles northwest of J. A. Ayleward's Wabash Right-of-Way 1, section 27-10n-5e, Prairie township, which is producing about 25 barrels daily from the Benoist for the county's only production. Howe 1 topped the Glendine at 1461 feet, St. Louis at 1973 feet, Salem at 2179 feet and Osage at 2340 feet.

This company, most extensive wildcatter in Illinois, topped the Aux Vases at 3341 feet with its Tullis 1, C E ½

Illinois Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Clay County —		
Pure, Leon Clark 7	1031	3095
Jos. Ullom 6	58	3080
Dr. A. G. Stanford 2	877	3121
Clinton County—		
Webb, Neal et al, Husman 1	*	1600
Paul Moseback, Schemel 1	*	1027
Coles County—		
Perry Miller & Nash, Ingram 1	*	743
Fayette County—		
Carter, James Feezel 8	300	1553
T. B. Taylor 4	280	1562
H. H. Buesking 2	512	1520
H. H. Buesking 1	252	1556
William Holley 4	207	1588
Richard Larimore 9	192	1587
Richard Larimore 10	343	1596
Robert Matson 3	648	1603
Robert Matson 4	240	1555
D. B. Lilly 1	*	1602
William Ireland 5	328	1581
Pearl McClain 2	666	1581
Henry Tucker 2	216	1583
S. M. Dial 3	120	1525
S. M. Dial 4	336	1588
Oils, Inc., Blurton 8	524	1580
Pace-McLean et al, Fee 4	187	1595
Jarvis Bros., Homan 9B	200	1579
Jefferson County—		
Carter, Cunningham 2	138	1995
Marion County—		
Texas Co., W. M. Stroup 7	140	1827
K. Wayman 11	245	1767
K. Wayman 13	378	1761
O. Hopkins 4	658	1709
F. Miller 5	294	1802
H. A. Reynolds 2	147	1788
R. Richardson 6	315	1703
S. Stonecipher 8	420	1804
City of Centralia 30	294	1865
T. Eeasley 10	448	1875
C. Farthing 3	329	1853
N. Shanafelt 4	148	1863
D. Young 12	840	2076
D. Young 13	1484	2076
Hayes & Thomas, N. Lee 3	1600	1987
Baldwin et al, Homes 3	1000	1870
Homes 4	5000	1865
Miller et al, K. M. Beal 1	*	2277
Montgomery County —		
R. E. Johnston, Fuller 1	*	750
Soliday & Sands, Moon 1	*	1065
Richland County—		
Kitchen & Wilson, Wilson 1	*	3100
Wabash County—		
Clyde Washburn, Pfeifer 1	48	2580
Wayne County—		
Pure, J. A. Johnson 1-B	133	3121
W. G. McCracken 2-A	50	2957
Gid Miller 1-A	412	3105
White County—		
Mazda Oil Co., Carmi Orphanage 1	75	3013

*Failures; †Junked; ¶Million cu. ft. gas.

NE NE 29-3s-8e, White County, and was drilling in that formation. The Glendine had been topped at 2754 feet, the Cypress at 3028 feet, and the Renault at 3255 feet.

Other Kingwood wildcats: Egyptian Tie & Lumber Company 1, C S½ NW NE 15-8s-10e, Gallatin County, drilling at 2000 feet; Johnson 1, SE SE NE 18-3s-11e, Edwards County, drilling at 600 feet; J. Oliver 1, SE NW NW 11-10s-6e, Saline County. Drilling below surface pipe at 200 feet; Griswold 1, SE NE 29-6s-6e, Hamilton County, derrick, and Walker 1, Section 23-7n-11w. Crawford County, derrick. Kingwood Oil Company and Bur-Kan Oil Company's Woods 1, Section 21-2s-4e, Jefferson County, was a location.

A ¾ mile north extension was given the West Fairfield pool of Wayne County when Leonard Brothers' Eureka School 1, SE SW 27-1s-7e, was brought in flowing from the McClosky between 3280 and 3290 feet. The casing collapsed and prevented a production test.

In the new Niagaran lime pool in Sandoval Township, Marion County, Menhall et al's Benoist 1, E NE NW 8-2n-1e, completed a week ago at 2924½ feet, flowed 1654 barrels on its initial 24-hour test. This operator's No. 2, a south offset, was nearing the production level. Manley Oil Corporation was laying a line to connect the new pool with its line from the Lake Centralia pool, and is also planning a loading rack at Sandoval.

Near 7,00,000 in June

The Illinois Geological Survey last week reported the state's production for June at 6,978,000 barrels, bringing production for the first half of the year to 33,463,000 barrels. During all of 1938, 24,000,000 barrels were produced. Approximately half of the state's present production comes from the Lake Centralia-Salem pool of Marion County, where the oil is taken from the Benoist sand and McClosky lime. The pool numbered 1048 producing wells at the close of June, the thirteenth month of its life.

The state boasts 37 new pools, all opened since January 1, 1937, and containing a total of 3481 oil- and natural gas-producing wells.

West Virginia Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Braxton County—		
Pittsburgh & W. Va. Gas Co., Boggs 7685	¶.25	2154
Calhoun County—		
Gunn, Gainer & Gunn, Stump 1	¶1.10	1980
Clay County—		
Pittsburgh & W. Va. Gas Co., Duffield 7687	¶2.50	1871
Gilmer County—		
Pittsburgh & W. Va. Gas Co., Collins 7671	¶.50	1955
Kanawha County—		
Ajax Gas Co., P. Marks 1	¶.15	4053
Lewis County—		
Carnegie Nat. Gas Co., Linger 2	*	2600
Lincoln County—		
Woodal Gas Co., Stowers 2	¶.30	3774
Left Fork O&G Co., Lovejoy 1	¶.26	3641
Monongalia County—		
Pittsburgh & W. Va. Gas Co., Hennen 3	¶.16	3453
Pleasants County—		
Ball et al, Poynter 1	5	1650
Vincent et al, Nichols 1	¶.02	1750
Ritchie County—		
Patterson & Pope, Patterson 7	5	1760
Roane County—		
Rogers Properties Co., Moore 3	*	1909
Wayne County—		
Crete Gas Co., Carter 1	¶.20	3325

*Failures; †Junked; ¶Million cu. ft. gas.

Kentucky Fields

McLean County core test finds 4 feet of McClosky

Owensboro, Ky.—H. H. Schwartz' Traylor-Frissee 1, 3 miles southwest of Beech Grove, McLean County, was reaming out a core-drilling-machine hole preparatory to setting casing to the McClosky, where 4 feet of saturation was topped at 1234 feet. The formation will be acidized when casing has been set and plug drilled. It is a rank wildcat, and its successful completion would spur activity in McLean and Webster counties.

About a mile southeast of Livermore, McLean County, J. D. Reynolds was moving in materials for a test on the Hollis Howell farm. It will be put down with cable tools by A. E. Patton, contractor. Fred Phillips has made a tentative location on the W. Atherton farm, ½ mile west of Livermore.

Ralston & Sales abandoned Annie Stewart 1, near Spottsville, Henderson County, at 2100 feet when they failed to recover lost tools. The rig was being skidded 50 feet west for another McClosky try on this lease.

Tom Graham's Della Vance 1, 5 miles northeast of Hartford, Ohio County, shut down for orders at 1790 feet after reporting a small oil show. This is the first attempt to revive the old Hartford pool, opened in July, 1912, with a well put down by a group of Hartford business men. The discover" had a yield of 40 barrels of oil a day and was completed at 1776 feet. It, and about a dozen wells later drilled in the same area, furnished the only production from the Corniferous in Western Kentucky. Probably 50 wells were since drilled in scattered parts of Western Kentucky in an effort to obtain Corniferous production, but none were successful. This formation is very productive in eastern and southern sections of the state.

Indiana Activities

Two new producing horizons uncovered in Gibson pool

Evansville, Ind.—Two new productive horizons were added to the Indiana side of the growing Griffin pool of Gibson County last week. Continental Oil Company's Bozeman Land Company 1, NW SW NW 24 3s-14w, Wabash Township, was completed in the Weiler sand, found below the Cypress and above the Bethel. Previous wells drilled in this pool found the Weiler shale. The Weiler was between 2507 and 2535 feet; the well completed flowing with an estimated initial of between 1000 and 1500 barrels daily. It is shut in for lack of storage.

Ed Amis' Amis-Cooper 4, NE NE 24-3s-14w, Wabash Township, had good production in the Cypress, and was testing the Waltersburg sand, as yet unproductive in this pool. Previous completions in this pool, opened seven months ago, were in the Cypress sand and McClosky lime. On the Illinois side of the Wabash River, in Wabash County, W. M. Bartlett's C. J. Stansfield 1, SW SE SE 19-2s-13w, is taking production from the Biehl sand; while Clyde Washburn's Pfeifer 1, SW SW SW 13-1s-13w, Mt. Carmel Township, was completed in the Tar Springs for a 48-barrel initial last week. The lower St. Louis lime has not yet been given a decisive test.

After coring a tight McClosky, Haynes & Thomas' Walter Seifert 1, C NW SE 19-6s-12w, Black Township, Posey County, set casing to the top of the lime on the strength of an electric test. The wildcat is 9 miles from nearest production.

Midway between the Continental Oil Company's Bozeman Land Co. 1 in Gibson County, and J. W. Pearson et al's T. C. Chisum's T. E. Boultinghouse 1, SW SW 10-4s-14w, Phillips Township, White County, Illinois, C. G. Evans and W. R. Burnett located Fanny Jolly 1, NE NE NW 3-4s-14w, which will be taken to the McClosky. Boultinghouse 1 had oil rising in the hole when casing was set to the top of the Cypress at 2612 feet.

Al Walker's and Bruce Martin's Oscar Schmidt 1, SE SW 13-3s-9w, Barton Township, Gibson County, a wildcat, was

Kentucky Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Breckenridge County—		
Near et al, Cremshaw 2	*	496
Butler County—		
Cumberland Pet. Co., Brown 2	200	408
Daviess County—		
Ellis & Ashby, Litsey 1	10	775
Ohio, Coombs 2	250	1820
Hancock County—		
Turner et al, R. Duke 5	4	702
Lincoln Pet. Co. (Beard et al), McGavock 3	*	520
J. B. Reynolds, McCauley 1	*	640
O. D. Vickers, Smith 2	*	400
Combs & Freelson, Hendricks 3	*	300
Henderson County —		
Baker et al, Banks 1	*	1480
Hopkins County—		
Hughes, Brown 1	*	1953
McLean County—		
L. C. Young & Sunflower O&G Co., Vickers 3	*	1453
Ohio County—		
H. L. Ogle, McQuary 7	10	993
J. C. Ellis, Charlet 2	*	1530
Fisher Oil Co., Taylor 1	*	1714
Daly et al, Sorrels 1	*	1075
Mecca Oil Co., Seton 3	*	1413
Powell County—		
Hooks Bess, J. Bellomy 1	10	900
Evans O&G Co., Townsend 2	8	950
Joe T. Brach, Lowery 6	3	....
Union County—		
Sun, Nally 1	*	2705

Ohio Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Athens County—		
Koontz & Gibson, Felton 5	¶.75	1005
Ohio Fuel Gas Co., Antle 1	¶.15	934
A. D. Townsend, Hartley 2	¶.10	1680
C. A. Cody, Colmer 1	¶.08	1746
Cuyahoga County—		
Wm. Dempsen, Dempsey 1	*	2644
Guernsey County—		
Ronshausen & Ridgeway, Moss 1	¶	1061
Holmes County—		
Ohio Fuel Gas Co., Hart 1	¶1.00	3380
Knox County—		
Ridgeway et al, Kaylor 1	*	2985
Licking County—		
Kindtz-Hulse, Billman 1	125	3085
Ohio Fuel Gas Co., Wilson 1	¶1.45	2590
Medina County—		
Preston Oil Co., Garver 3	18	435
Oko Oil & Gas Co., Brinker 36	4	378
Monroe County—		
Hines Bros., Hines 1	¶.10	1957
Corning Producing Co., Weaver 1	*	3837
Perry County—		
Thistle Oil Co., Weaver 1	*	3780
Washington County—		
Burkhart O&G Co., Hall 1	¶.23	1660
Ewers & Johnson, J. M. Holland 1	*	1515
Lorentz & Snyder, Wagner 1	*	1108
Wyandot County—		
I. M. Coyle, Drumgold 1	*	1416

*Failures; †Junked; ¶Million cu. ft. gas.

pumping half water and half oil from the Pottsville sand at 951 feet. Effort was being made to shut off water. Nearby, C. B. & J. B. Sowell located Weiberle 1, NW NE 24-3s-9w, near Mackey.

A Spencer County wildcat, W. S. Tatum's Roscoe Hinkle 1, SE SW NE 17-6s-6w, near Chrisney, topped the Devonian at 2645 feet and was abandoned at 2700 feet. Northwest of Chrisney at the junction of Highways 66 and 45, the Friendship Church one-acre tract has been leased to Carl A. Bays.

New York Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Allegany County—		
J. A. Bucher, Hamsher farm, Bolivar	3	1263
Forest Oil Co., Ackerman farm, Bolivar	7	1428
Sawyer & Martin, Wasson farm, Bolivar	5	1349
Bradley Prod. Corp., Star farm, Bolivar	4	1452
Pure Penn Pet. Corp., Christman farm, Bolivar	6	1436
Hardman & Thompson, Hazzard farm, Wirt	4	1339
Bradley Prod. Corp., Knight farm, Wirt	8	1348
LeSuer Oil Corp., Allen farm, Bolivar	6	1288
Harder-Bradley Oil Co., Clare-Rhodes farm, Alma	5	1283
Scio Oil & Gas Co., B. S. Clark farm, Scio	5	958
H. W. Patterson et al, B. S. Clark farm, Scio	5	964
B. S. Clark farm, Scio	4	950
Allegany: Water Intake Wells		
Forest Oil Co., Ackerman farm, Bolivar	...	1420
Duke & Reynolds, Nelson farm, Wirt	...	1336
Otsquago Oil Corp., Pike farm, Alma	...	1456
Bradley Prod. Corp., Breckenridge farm, Alma	...	1345

Pennsylvania Completions

Bradford District		
Ryder Scott Co.	6	....
W. J. Carmody, Zeliff	2	....
D. E. Quinlan Estate	8	....
Walker Bros. et al	2	....
Hardwick, Rice & Tuohy, Fisher	2	....
Smith Newton Oil Co., Lincoln	1	....
Kahle Oil Co., Norton	1	....
Forest Oil Corp., 3 wells	3	....
Forest Petroleum Corp., 4 wells	4	....
Niagara Oil Corp., 7 wells	7	....
Bradford Transit Co., 10 wells	10	....
Bradford: Water Intake Wells		
Grant & Mohan Oil Co., No. 3, Bing 484-5-6-7	...	....
Esther Oil, Inc., Lawton	...	....
Forest Oil Corp.	...	....
Forest Petroleum Corp., 2 wells	...	....
Niagara Oil Corp., 2 wells	...	....
Butler-Armstrong District		
George Garing, George Garing	1	....
Campbell & Haverstrow, C. W. Bame	4	....
Middle District		
Case Pomeroy & Co., Lot 80	2	....
Commercial Lumber Co., American	5	....
Middle District: Water Intake Wells		
Case Pomeroy & Co., Lot 80	...	....
New York-Pennsylvania: Gas Field		
New Penn Development Co. et al, E. G. Cady	¶	....
Dunshie	¶	....
Armstrong County—		
T. W. Phillips Gas & Oil Co., C. N. Schaeffer 1	¶10	1787
Clarion County—		
T. W. Phillips Gas & Oil Co., H. N. Logan 1	*	1293
Owens Illinois Glass Co., J. Simpson 3	¶.03	3345
Greene County—		
Manufacturers Light & Heat Co., B. Wiley 2	¶.12	2009
Potter County—		
Belmont Quadrangle Drilling Co., Kibberville 1	*	4826
Van Glider et al, S. Lewis 1	*	5113
Washington County—		
R. M. Duden et al, R. Scarum 1	*	2072
E. H. & T. O. Tague, A. D. McKennan 15	1	1206

*Failures; †Junked; ¶Million cu. ft. gas.

North Texas Fields

Southwestern Cooke County gets shallow oil pool.

Walnut Bend and Bonita pools get new pay zones.

Wichita Falls.—Discovery of a shallow pool in Cooke County and the proving of new pay levels in the Walnut Bend and Collinsville areas were outstanding developments in North Texas the past week. Unfavorable events included the failure of the Caddo lime to produce when penetrated by deep wildcats in Clay and Montague counties, and an outpost in the Hull-Silk field, Archer County.

The Ellenberger will be the next objective of Frabor-Hodges Corporation and Sinclair Prairie Oil Company's Kinder 1, western Clay County wildcat, which was drilling at 5500 feet. The Caddo lime, topped at 5445 feet, did not offer adequate saturation to warrant a test. Youngblood, Foree et al's Wynn 1, 6 miles west by north of Bellevue, logged Home Creek lime at 1620 feet, and was drilling at 2790 feet. L. T. Burns et al's Pickett 1, northwest outpost for the Burns-Browning deep area, was drilling at 3160 feet, and Calloway 1, a wildcat, was shutdown for water at 2170 feet. Bridwell Oil Company's Halsell 1-B, south offset to the Halsell pool discovery, was drilling at 2950 feet.

Southwestern Cooke County added a shallow oil pool early last week when J. M. Russell et al's H. W. Stark-Texas Christian University 1, situated 1½ miles south of the Voth 1800-foot Ellenberger lime area, pumped 109 barrels of 30-gravity oil initial from sand at 1125-43 feet. The new strike is 330 feet out of the southeast corner of W. A. Lynn Survey, A-1572.

Preliminary test given Joe Beard et al's B. Voth 2, M. Matson Survey, south extension for the Voth pool, indicates the largest producer. The well flowed 100 barrels of 38-gravity oil in 30 minutes through casing from Ellenberger at 1772-74 feet. The gas volume was rated at 3,000,000 feet daily. Seven-inch pipe was cemented at 1590 feet, and liner set at 1765 feet.

Third Horizon at Walnut Bend

Third oil horizon for the Walnut Bend deep area, northeastern Cooke County, was established from the Ellenberger by Sinclair Prairie Oil Company's J. M. Best 10, which swabbed 332 barrels of pipe line oil in 17 hours after plugging back from 5643 to 5565 feet after cementing 5½-inch pipe at 5286 feet. Top of the Ellenberger was called at 5413 feet. The company's Best 11 recently proved the Simpson at 5206-5242 feet for production by swabbing 441 barrels of oil in 21 hours, with the well later flowing 160 barrels natural through tubing in 2½ hours. Best 12 is trying to complete in Simpson section at 5269-5462 feet after plugging back from 5474 feet. The company's Best 13 was completed in the regular Strawn at 4959-98 feet flowing 462 barrels oil in 12 hours natural.

Sinclair Prairie Oil Company's Whaley 1, 2 miles east of Nocona, Montague County, proved dry in the Caddo, topped at 5165 feet, but encountered oil saturation in a lower lime at 5280-5310 feet. It will take another core to ascertain if the show warrants running a string of pipe. Whaley 1 found the Strawn horizon barren of production. A second oil horizon for the Bonita 2-well pool, eastern Montague County, was uncovered by Joe Benton and J. W. Holmes' Joe Bowers 2, NEc Section 55, in sandy-lime at 3853-69 feet. Nominal oil show was also reported in granite wash at 3722-3853 feet. Seven-inch pipe was cemented at 3824 feet for a production test. E. B. Madden et al's Harry Smith 1-a, H. N. Baker Survey, 2 miles northeast of the town of Bonita, passed up light show of oil in sand at 3275-83 feet, and was drilling in shale at 3330 feet.

In western Grayson County, Sinclair Prairie Oil Company's Mollie Williams 1, R. H. Sowell Survey, 2 miles southwest of Collinsville, bailed 6 barrels of 16-gravity oil and 24 barrels of water in 12 hours from sand at 3570-84 feet. This outpost failed to produce in the 3900-foot Strawn, and was plugged

North Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Archer County (Hull-Silk)—		
Blackwell O&G Co.-Helmerich & Payne, Wilson 3, lot 2	992	4316
Bert Ligon et al, S. D. Johnson 1	1328	4348
Archer County (K-M-A)—		
Staley Oil Co. et al, Mangold 15, blk 31	544	3857
Archer County—		
Chambers & Hanks, Andrews 1, sec 1806	21	907
Baylor County (Seymour)—		
British-American O. P. Co., Green 1-C	151	2621
Clay County—		
Cooper et al, Duncan-Texaco 4, blk 16	15	1214
Duncan-Arnhold et al, Duncan 14, blk 17	80	1210
Grace & Harwell, Hansard 3, blk S	*	365
Lefevre & Blakely, Snearly 1	*	1826
Story et al, Magnolia 1, blk 47	10	330
Clay County (Wildcat)—		
Farrell et al, Malone 1, sec 12	*	5545
Cooke County—		
C. & L. Oil Co., Perkins 1	104	879
Jack County—		
Tebay et al, E. F. Smith 2	60	2875
Montague County—		
Mullen & Weil, Hodges 2	51	1005
Montague County (Nocona)—		
Stanolind, Zachary 1	984	4661
Montague County (Wildcat)—		
Seitz-Comegys & Seitz, Inc., Bright 1	*	3013
Wichita County (K-M-A)—		
Buffalo Oil Co., Ferguson 12	552	3831
Ferguson 14, lot 5	1320	3776
Cochran & Cain, Preston 1, sec 27	67	4001
Curtis & Caraway, J. James 4, sec 16	*	3989
Hamilton et al, Martin 1-D, sec 36	736	3850
Melat & Graham, Munger 5-A, blk 24	696	3888
Omohundro et al, Love 2	696	4018
Wichita County—		
Magnolia, H. Reilly 146	*	805
H. Reilly 147 (2114½-ac)	322	1358
Smith et al, W. L. Doyle 1	*	503
Young County—		
Stuckey O&G Co. et al, Benson 1, sec 1451	36	893
Trentman-Nunnellee et al, Guinn 1, sec 1974	500	4027
Underwood Drl. Co. et al, Campbell 39-C, sec 1483	27	885
Campbell 40-C, sec 1483	9	886
Willis et al, Garvey 1, sec 4	*	805
Young County (Wildcat)—		
Hull-Silk et al, Tucker 1, sec 180	*	5018

*Failures; †Junked; ¶Million cu. ft. gas.

back to 3590 feet after logging Ellenberger at 4055-4543 feet.

King Oil Company and Phillips Petroleum Company's Wilson 1, Lot 6, Section 23, southwest outpost for the Hull-Silk field, developed a small show of oil with water when tested in Caddo lime section at 4735-4821 feet. The hole has been plugged back to 4735 feet to gun-perforate casing opposite saturated zone in the Strawn at 4021-43 feet.

K-M-A Slowing Down

The K-M-A deep area recorded only 3 new operations the past week, indicating that operators may be heeding the warnings issued lately by pipe line companies that no additional well connections are desired. Continental Pipe Line Company is reported to have announced that effective July 15 its daily runs would be cut 1000 barrels after failing to liquidate surplus crude stocks accumulated earlier in the year. Sinclair Refining Company, pipe line division, and Magnolia Pipe Line Company have stepped up their quota of well connections above set schedules in order to provide market relief for unconnected wells within reach of their gathering lines, and are not likely to materially increase their runs.

Currently the K-M-A field has 51 operations, including 28 tests drilling and in process of completion, and 14 locations. New tests the past week included Magnolia Petroleum Company's Minnie Thom 1, located in southeast corner of 240-acre lease, W. H. Spillers Survey, A-375, situated northwest of a recent completion on the extreme southwest edge of the field.

Completion of a second Strawn failure for the Griffin pool, northwestern Archer County, was credited to Deep Oil Development Company and Eph Griffin's W. T. Waggoner 3, south offset to production, after failing to encounter saturation in the 4400-foot zone.

Good flowing well extends Steffens pool

Abilene, Texas.—Establishing a ¼-mile northeast extension for the Steffens pool, eastern Jones County, Sandy Ridge Oil Corporation's W. J. Alton-Magnolia 1 is rated as one of the largest natural flowing producers. The well flowed 148 barrels oil in 5 hours through open tubing from the Flippen sand at 1901-1903 feet, with an elevation of 1676 feet. The Bluff Creek lime zone proved dry in this outpost.

The Texas Company's Laura Carter 4, located in the Noodle Creek field, oldest producing area in Jones County, flowed 213 barrels natural on tubing gauge after deepening to the lower sand at 3168-71 feet. It originally was completed as a small pumper in 1929 at 2521 feet.

Northwestern Nolan County has been assigned a projected 8000-foot wildcat to try for production in the Ordovician series on a large block of acreage assembled within the past year by Plymouth Oil Company. The company has awarded contract to drill Mrs. F. McClure 1, SW NE NW T&P Section 49, Block 23, 2½ miles east by south of Roscoe. A second block, embracing 15,000 acres, recently was purchased for a bonus of $1.50 per acre. It centers between Roscoe and Maryneal, and is south of the acreage that supports the deep test. In northeastern Nolan County, Green, Owens et al's C. H. Tipton 1, near SE NW SW T&P Section 43, Block 19, was drilling by parted section of casing at 3400 feet, having plugged back from 4464 feet to 2640 feet. Favorable saturation was logged at intervals below 4387 feet, with an elevation of 1975 feet, and casing trouble developed while preparing for a test.

Twenty-acre spacing for Sullivan City

Rules for the Sullivan City Field, Nueces County, issued by the Texas Railroad Commission allow drilling of one well to 20 acres. However, wells may be located 330 feet from lease lines and 660 feet apart.

Texas Panhandle Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Gray County—		
Lone Star, Waters 1, sec 90.....	*	2893
Magnolia, Morse 3-B	192	2725
Shell, Haggard 9	514	3290
Tripplehorn et al, Webb 3.....	107	2662
Hutchinson County—		
Continental, Carver 2 .....¶5.2		3252
Cree & Hoover, Haile 5	951	3039
Magnolia, SW Oil & Dev. Co. 10...	20	3263
Phillips, Cockrell 41	258	3060
Jarvis 1	88	3251
Supreme-Staples 3	167	3252
Power Pet. Co., Haile 3	492	3079
Stekoll Oil Co., Whittenburg-Amerada 2	35	2990
Moore County—		
Red River Gas Co., Shelton 3-A..¶18.7		3000

*Failures; †Junked; ¶Million cu. ft. gas.

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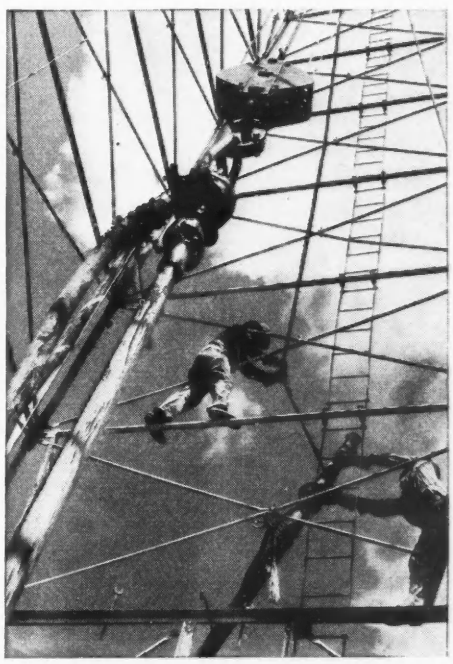

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West Texas Fields

Start development of Ordovician strike in Pecos.
Test on northeast of Wasson drills into water.

Midland, Texas. — Development of the Apco pool, northern Pecos County Ordovician strike made last April, is in prospect, with Magnolia Petroleum Company taking the initiative in starting operations on Masterson 1, C E¼ of W¼ H&GN Section 104, Block 10. The new project is on a 40-acre site, and is a quarter-mile southwest of the discovery, which flowed natural from Ellenberger at 4555-95 feet.

Magnolia Petroleum Company's Eaton-Abell 2, near east corner of H&TC Section 23, Block 3, only active Ordovician test in Pecos County, was drilling hard gray lime at 4726 feet, with an elevation of 2424 feet. It is near the Simpson section of the Ordovician.

Substantial increases in proration allowables given a number of West Texas areas in recent weeks more than compensate for production losses arising from 5-day week schedules. The affected fields are likely to register gains in drilling activity. Further restrictions are in store for the Wasson and Bennett fields for more than a month due to the market and transportation outlet being pegged in the face of a steady gain in the weekly quota of completions. Shell Pipe Line Corporation is scheduled to start construction of its 8-inch extension from Hobbs to Wasson this week. Completion date has been set for August 20. In the meantime, Humble Pipe Line Company, which provides the only general market outlet, will make further cuts in runs per well in apportioning its limited capacity. The diversion of production in the Slaughter and Figgan fields to a new refinery at Levelland as a substitute for tank-truck deliveries to the above carrier at Wasson has enabled it to absorb a few additional connections.

The water table for the northeast edge of the Wasson field and on a trend toward the Bennett area has been established by Oil Development Company of Texas' Willard 1-A, SW SW NW Section 803, in drilling through the oil section to water at 5250-67 feet. Swabbing test to determine the volume of water will be made before plugging back. This concern recently succeeded Coline Oil Company in management of the mineral rights under fee land owned by the GC&SF railroad, identified as W. N. Willard, trustee.

Amon G. Carter, co-discoverer of the Wasson field, is negotiating with Plymouth Oil Company for the sale of controlling interest in his properties for a cash sum. The deal involves the payment of an over-riding royalty until development costs are amortized, then Carter will have a working interest. Similar acreage assignments have been made by The Texas Company, Honolulu Oil Corporation and smaller lease owners in the Wasson area.

Stanolind Oil & Gas Company's Rayner 1, projected Lower Permian test for the Cedar Lake geophysical prospect in northeastern Gaines County, was due to resume late last week after landing surface pipe. Contractor is using a Diesel-electric rotary.

West Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Andrews County (Emma)—		
Sinclair Prairie, Cowden 6	1608	4250
Concho County (Wildcat)—		
Clymore Co., T. Y. Hill 1	*	2565
Crane County (Church-Fields)—		
Knox et al, University-Phillips 1	127	3135
Crane County (McClintic)—		
Mabee et al, McClintic 12	386	3100
Crane County (Dune)—		
Great Western Prod., University 3-A	1201	3305
Crane County (Gulf-McElroy)—		
Gulf, McElroy 195	135	3057
Crane County (Wildcat)—		
Christian et al, Stephenson 1	**	3345
Dawson County (Wildcat)—		
Magnolia, J. B. Fry 1	*	5258
Ector County (Foster)—		
Arkansas Fuel Oil Co., Johnson 4-B	990	4222
Continental, Johnson 6	793	4252
Stanolind, E. F. Cowden 21-A	776	4200
J. E. Witcher 16	856	4210
J. E. Witcher 18	888	4200
Ector County (Goldsmith)—		
Ohio, Cummins 5	210	4212
Ector County (North Cowden)—		
Llano Oil Co., Holt 1-B	810	4214
Sinclair Prairie, H. Corrigan 6	909	4417
Fisher County (Wildcat)—		
F. W. Bennett-Frank Campbell, Martin-Shell 1-a	*	3902
Gaines County (Wasson)—		
Continental, Wasson 4-51	682	4987
Howard County—		
C. L. Mann et al, O. Chalk 6	1108	2930
Parker Drl. Co., T. P. Land Trust 2-B	*	2840
Jones County—		
Bert Fields-Carey King, Taylor 6	2590	3255
Iron Mt. Oil Co.-Humble, Davis 3	3840	3260
Ungren-Frazier et al, Culwell 3	1920	3256
Culwell 4	2900	3253
Pecos County (Masterson)—		
Superior, Crockett-Skelly 1	26	1459
Pecos County (Payton)—		
British-American, Payton 25	81	1995
Pecos County (Taylor-Link)—		
Letwin-Lippett-Kallison, University 3-D	98	1702
Williams et al, University-Conoco 1-A	*	1845
Pecos County (Shearer)—		
Childress Roy. Co., Masterson-I. T. I. O. 9	236	1485
Presidio County (Wildcat)—		
L. C. Brite Prod. Co., Fee 4	*	5602
Stonewall County (Wildcat)—		
Forest Dev. Corp.-Carl King, Moreland 1	*	5545
Upton County (McCamey)—		
Harvey-Sergent & Rutter, Cordova Union-Texaco 6-A	273	2247
Ward County—		
Columbia O&G Co., Johnson 3-C	81	2061
Winkler County (Henderson)—		
W. K. Roy. Co., Walton-Humble 6-C	1012	3055
Winkler County (Hendrick)—		
Stanolind-Westbrook-Thompson, Hendrick 1-G-T-89	70	3040
Yoakum County (Bennett)—		
F. M. Allison Prod. Co., Bennett 3	1910	5232
Devonian Oil Co., Hodges 5	1403	5225
Yoakum County (Wasson)—		
Aloco Oil Co., W. M. Johnson-Texaco 3	621	5233
Smart-Texaco 4	729	5137
Continental, Kendrick 1-868	1307	5125
Shell, Baumgart 5-C	1132	5171
Skelly, Thomas 5	1006	5149
T. P. C&O Co., Cecli-Bloomer 2	1192	5130
Tide Water Associated, Kendrick 1-B	1015	5140

*Failures; †Junked; ¶Million cu. ft. gas.

West Central Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Comanche County—		
Kirk & Elliott, Richardson 1	*	608
Eastland County (Wildcat)—		
Day & Hightower, Wilkerson 1	*	702
Palo Pinto County—		
Allen & Ritchie, Fee 2	¶5.7	1471
Shackelford County—		
Hedrick Oil Co., Carey 1	*	2025
Algord Oil Co. et al, Swenson 1	2900	3194
J. F. Baker & M. E. Daniels, Davis 9	8	1626
Owens-Snebold Oil Corp. et al, McKeever 2	1700	3200
Roeser-Pendleton & Conoco, Cook 37-A-85	*	1395
Ungren & Frazier et al, McCown 4	1272	3195
Stephens County (Wildcat)—		
The Falcon Co., Hooper 1	*	3815

*Failures; †Junked; ¶Million cu. ft. gas.

Texas permits total 228

Permits for drilling 228 new wells in Texas were approved by the Texas Railroad Commission last week, 61 more than were allowed the week before.

Operators in the East Texas field were permitted to drill 30 new locations, including 19 in Gregg, 10 in Rusk and one in Upshur County. From the remainder of the East Central Texas territory eight locations were reported.

Gulf Coast led the state with 49 permits, while Southwest Texas ran a close second with 46 locations. From West Texas 40 locations were listed, including 17 in Ector County, and 20 permits were approved in West Central Texas.

The commission approved 30 locations in North Texas, while Panhandle producers reported five.

Texas' governor vetoes offshore ownership bill

A bill authored by Senator Allan Shivers of Port Arthur proposing to declare Texas' sovereignty over the waters of the Gulf for a distance 27 miles out from the shoreline was vetoed by Governor W. Lee O'Daniel last week.

The governor said he considered it "unnecessary to affirm by statute Texas' ownership which has been fully established."

Because of recent efforts to take over all coastal lands by the federal government, ownership of this land is of particular interest in view of oil development along the Texas coast.

Several Texas field hearings scheduled

A number of field rule hearings before the railroad commission at Austin have been scheduled. Included:

Luby field in Nueces County, hearing July 28 to consider a proposed change in the method of allocation.

Cordele field in Jackson County, general field rule hearing July 24.

Reynolds field in Jim Wells County, general field rule hearing July 21.

Novice field in Coleman County, general field rule hearing July 18.

Sewell pool in Young County, general regulatory hearing July 17.

A hearing will be held July 25 on Sinclair Prairie's application to conduct a salt water disposal project on its Amanda Wiley lease, James Jordan Survey, Smith County, using No. 9 well as an input for salt water from other wells on the lease.

East Texas Fields

Two failures end five-well Opelika campaign

Tyler, Texas.—Two Lower Trinity failures were drilled on the flanks of the Opelika gas-distillate pool, Henderson County, the past week to temporarily end a 5-well program undertaken by Tide Water Associated Oil Company, Seaboard Oil Company and Humble Oil & Refining Company. The partnership's Lewis 1, 4000 feet northwest of deep production, logged 3 zones of porosity, aggregating 18 feet in thickness between 8340-8450 feet, in drilling to 8465 feet. Scott 1, situated 2½ miles southwest of production, quit at 8980 feet, or 30 feet below the base of the Massive Anhydrite, topped at 8662 feet. On this marker it was 1076 feet lower on structure than the partnership's McElreath Suggett 2-C.

Superior Oil Company's Hargrove 1, southern Titus County Paluxy test, was slated to be plugged after fulfilling contract at 4200 feet.

Confiscated Texas oil sold after three years

Ending a three-year fight, Attorney General Gerald Mann last week consummated the sale of 159,091 barrels of oil confiscated in a suit against Joe I. Dyer and collected $147,536 from the sale of the oil.

Dyer carried his contest of the sale to the U. S. Supreme Court which refused the appeal—thus affirming lower court judgments that the auction sale of the oil in January, 1937, was valid.

Encouragement in Woodbine wildcat near Mexia

Mexia, Texas.—A revival of interest in the Balcones fault zone near the old Mexia field was sought as Zephyr Oil Company cored saturated sand and shale in the Woodbine series at Peeples 2, Scott Survey, a mile north of Tehuacana. First sand was struck at 2593 and drilling proceeded to 2630 feet, with good saturation at close intervals. Casing was run and operators plan to drill plugs Monday. Electrical test confirmed the saturation which indicates a producer.

The same operators previously drilled a dry hole at Peeples 1, 1320 feet east line and 1254 feet south line NNE corner, Scott Survey. Woodbine series showed some oil although the test was structurally low on the dip. The test was drilled to 2825 feet, 12 feet below Georgetown lime. The second test, Peeples 2, was drilled 480 feet west of the initial hole, moving upward on the well defined structure.

East Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Kilgore Area—		
Gulf, Watson 22 (92.97-ac)	7300	3571
Longview Area—		
Atlantic, Burnside 40-A (204.02-ac)	8000	3642
Humble, Johnson 1-A-S (water input well)	*	3768
Magnolia, Christian 16 (64.95-ac)	7000	3670
X-Y-Z Oil Co. (was G. E. Burford), Fuller 1	1200	3703
Cass County (Wildcat)—		
Red Iron Dr. Co., Spearman 1, Burnham survey	*	3812
Harrison County (Waskom)—		
Arkansas Fuel Oil Co., Abney B-1, J. J. Blair survey	¶32	5930
Anderson County (Long Lake)—		
Carter-Gragg Oil Co., McGaughey-Tidal 2	300	5324
H. L. Hunt Oil Co., Sutton-Wolverton 1	¶115	5383
Franklin County (Talco)—		
Humble, Penn-Humble 8 (700-ac)	204	4295
Magnolia & Humble, Maxton 13 (326½-ac)	140	4303

*Failures; †Junked; ¶Million cu. ft. gas.

Cass County test quits

Marshall, Texas.—Red Iron Drilling Company has abandoned Spearman 1, Burnham Survey, Cass County wildcat southeast of Atlanta, at 3812 feet after encountering no showing. The well had top of the Woodbine at 3401 feet which was dense carrying no porosity, and logged top of the Fredericksburg at 3681 feet.

Two new operations in the Waskom field, Harrison County, are reported being contemplated by Aldred P. Cline and associates of Philadelphia. One of the proposed tests will be on a 150-acre tract in the W. H. Adams Survey.

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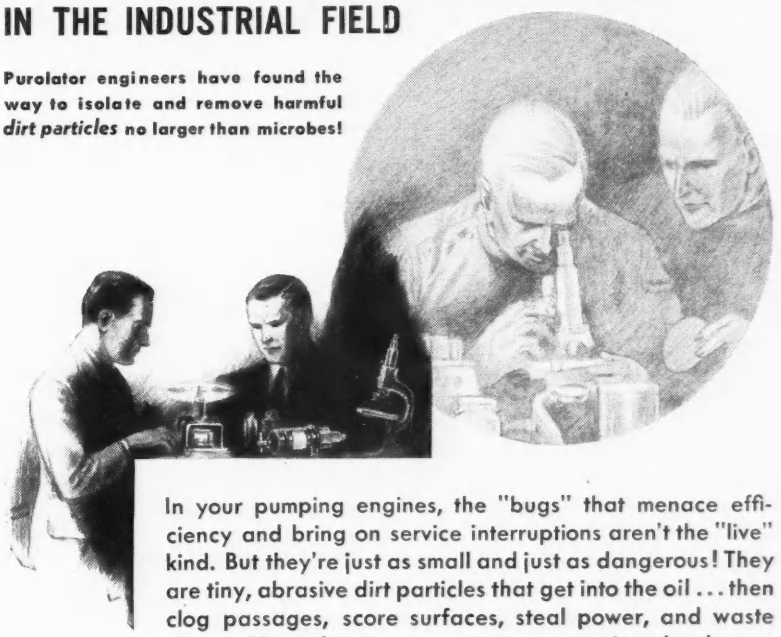

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Southwest Texas Fields

Robstown prospect pays off on first wildcat test.

Bentonville's 5400-foot sand gets mile extension.

South Texas Completions

SAN ANTONIO DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Caldwell County—		
Steck, Wilson 8 (Salt Flats).....	40	2705
Frio County—		
Wilcox, Harris 1 (WC) section 3..	*	4192
Guadalupe County—		
Great Southern, Ruederich 1 (WC), W. C. Baxter survey.....	*	1407
Medina County—		
Cromwell, Tschirhart 1, (WC), J. B. Rogers survey 18.....	*	1534
Milam County—		
Brown and Dovre, Hancock 1 (WC), J. J. Acosta league	*	375
Travis County—		
Burns, Bengston 1 (WC), sur 65..	*	1400
Grimes, Pearson 3 (Kimbro)	5	640

CORPUS CHRISTI DISTRICT

Hidalgo County—		
E. L. Smith and Wheelock Collins, Yturria Land 1 (WC), 1 mi n e end Samfordyce field	¶10	4146
Jim Wells County—		
Howell, Lindsay and Reed 1-A (WC), survey 3	*	5740
Irwin, Garcia 2 (1) (WC), Magnolia City area	*	5913
Osborn & Henshaw, Thigpen 4, (East Alice)	250	5393
Pettus, Garcia 1 (WC), 1½ mi nw Ben Bolt	*	6020
Live Oak County—		
Brauer, Holland, Smith, Bonham 4 (White Creek)	420	1440
Putillo & Sanguinet, Miller 1 (WC), W. P. Darby survey	*	5101
Nueces County—		
Seaboard's Luby 47 (Luby).....	500	4350
Stanolind, Spessard 25 (Luby)	500	4358
Texas Co., Flinn 1 (WC), sec 126..	125	5451
Texas Conservative, Wright 1 (WC), section 46	*	6010
Refugio County—		
Hewit and Dougherty, Rooke 2-A, (WC), La Rosa area	*	6505
Phillips, Hunsdon 1 (WC), 4 mi e La Rosa field	*	7020
Rutherford & Royal, Shirmer A-4, (La Rosa)	*	lcn.
Shield, Sasse 3 (La Rosa)	450	6357
San Patricio County—		
Nueces, Roper 1 (East White Point)	*	1250
Welch, Fee 5 (East White Point)..	500	5680

LAREDO DISTRICT

Duval County—		
Clark & Cowden, Peters 2-A (Rancho Solo)	175	1841
Cox & Hamon and Gorman & Yoakum, Hoffman 10 (Hoffman)....	120	2745
Nicholls, Graham 1 (WC), Chiltipin area	¶10	4838
Jim Hogg County—		
Giblin, Palacios 1 (WC), Randado area	*	3519
Humble, Atwood 4 (Colorado).....	*	3039
LaSalle County —		
Garner, Yeager 4 (WC), J. H. Gibson sur 39	*	1036
McMullen County—		
Basom, Jacob 1 (WC), Jacobs sur 50	*	963
Coquat, Stitz 17 (Callahan)	15	1030
18 (Callahan)	15	1031
Griffith, Dilworth 1 (WC), A. Moore survey	*	2620
Starr County—		
Aid's Escobar 1 (WC), 7 mi w Rio Grande City	*	1021
Clopton & Mitchell, Tijerina 1 (WC), 2½ mi ne Rio Grande City	*	1412
Sun, McKinney 6 (Sun)	250	4706
Vessels & Baldridge, Cameron 1 (North Rincon)	*	4302
Webb County—		
Hynes, Bruni 1 (WC), sur 2241...	*	3010
Magnolia, Benavides & Volpe 6-B (WC), Volpe area	150	2478
Zapata County—		
Interstate, Lopez 15 (South Mirando Valley)	120	1817
Shields, Martinez A-2 (Mirando Valley)	110	1860
Transwestern Oil, Cuellar 20-B (Escobas)	25	1389

*Failures; †Junked; ¶Million cu. ft. gas.

Corpus Christi.—Robstown, center of one of the lower Gulf Coast's most active and expensive wildcat leasing programs earlier this year, paid off on its first test. The Nueces County operation, after finding 14 feet of Frio sand and showing sufficiently to make a producer when drill-stem test was run, is being carried to its contract depth, but will plug back for completion. Shield Oil Company's J. T. Potter 1 late in the week was coring below 6165 feet without additional showings. Sand was cored at 5548-61 feet and on drill-stem test at 5540-61 feet recovered 90 feet of oil and mud under 250 pounds pressure in 5 minutes. A second test at 5556-82 feet found 360 feet of 42.4-gravity crude, 60 feet of oil and mud, and developed 360 pounds pressure in 15 minutes. Bottom-hole pressure mounted to 2300 pounds. Elevation is 88 feet, derrick floor.

$125 Per Acre

The discovery is located in Block 10, George H. Pauls Subdivision, 1½ miles northwest of Robstown. It is near the center of combined Lots 7 and 8. Earlier in the year several geophysical crews found structural possibilities on the block. Lease prices rose to as high as $125 per acre with royalty bringing a similar base. At least a score of operators hold protection against the well, indicating an immediate campaign.

In the Richard King sector of the Bentonville field in the northwestern portion of Nueces County, a mile north extension to the 5400-foot sand was effected through the completion of Southern Minerals Corporation's Richard King 4-A, SE NW Section 31. The well found the sand at 5371-81 feet, and flowed at the rate of 11 barrels of pipe line oil per hour, through 3/16-inch choke under pressures of 600 pounds on tubing and 1000 pounds on casing.

Frio Pool Opened

Hunter & Quin's Pundt 1, on the Wade City structure in northeastern Jim Wells County, flowed 30 barrels of distillate and 3,000,000 cubic feet of gas per day through ¼-inch choke after casing was perforated at 4794-98 feet with 7 shots. The well opens a new Frio sand pool for the lower Gulf Coast. The test was flowing under pressures of 1850 pounds on tubing and 1900 pounds on casing. Two more wells will be drilled on the block immediately, it is understood.

Also in Jim Wells County, north and west offsets to the discovery of the 5100-foot basal Frio sand Reynolds field are in process of completion. Both wells are showing for excellent oil producers. Texas Gulf Producing Company's Miller 1, discovery, made a high gas/oil ratio well, but the new producers apparently will flow with much less gas volume.

A new gas and distillate sand and a one mile west extension to the La-Gloria field, also Jim Wells County, is anticipated with Magnolia Petroleum Company drilling plugs in D. O. Maun 1. The well is bottomed at 6814 feet with sand section logged at 6788-6802 feet. Other sands up the hole showed distillate.

East Mathis Extended

Finding gas and distillate in the Frio, Seaboard Oil Corporation's Blumberg 1, has extended the new East Mathis field 2 miles northeast and uncovered another producing horizon. The well had been carried to 6015 feet, but was plugged back and perforated at 4417-22 feet. It showed some distillate on drill-stem test, but is now a gasser with 1975 pounds shut-in pressure. Bottom-hole pressure was gauged at 2100 pounds.

A new wildcat is scheduled to be commenced immediately on the southern end of the Bonnie View subdivision in Refugio County. The well will be about 1 mile north of the abandoned Benedum & Trees' Welder 1 in Freidline pasture, which found both oil and salt water in a 5700-foot Frio sand. Geophysical work has classified this as an important structure and prices on leases have soared to as high as $100 per acre.

Cullen, Mayo et al's Tucker 1, 1½ miles west of the Vanderbilt-King area of Jackson County, encountered a sand section in the top part of the Frio, or basal Marginulina, at 5000 feet, but on two attempts to drill ahead found a crooked hole. It has been plugged back and will be drilled to a 7500-foot contract depth.

North and south ends of West Cole seem joined

Laredo.—Production in the north and south ends of West Cole, Webb County, apparently was joined through completion of a 48-barrel pumping well in V. G. Schimmel's Benavides 1, Section 693. The well found sand at 2336-50 feet and was completed through perforations in a portion of it. At last reports, the test was showing about 10 percent water.

The above well is about 2 miles southwest of the Volpe field, where the Magnolia Petroleum Company has completed 3 in the same Mirando sand.

Houser and Campbell's Longoria 1, Section 692, 1 mile south of the Volpe field, topped the Mirando sand at 2482 feet, showed a little oil and considerable salt water and was abandoned at 2686 feet.

Sparta-Wilcox wildcatting enrolls a third project

San Antonio.—South Texas' Sparta-Wilcox wildcatting program gained another test to increase its active operations to three. Each of the wells are on key locations and are in areas where the information will have a vital effect on the future of this trend.

Tide Water Associated Oil Company is rigging up A. M. Bruni 7 in the northwest corner of a 500-acre tract in Section 7, Arispe Grant, Webb County. The well, near the heart of the Cole Bruni field, is scheduled to 9000 feet, passing through all sections into the Carrizo. This will be the deepest well ever drilled in the Mirando trend and

possibly farther into the section than any previously drilled operation. It is on a well defined structure of high relief. A number of producing sands down to and including Cook Mountain have been proved productive.

Far across the trend in Lavaca County, Walter Goldston was going ahead near 7000 feet in a 9000-foot Sparta-Wilcox operation on the C. C. Turk tract, G. W. Edward Survey. It is 6 miles east of Ezzell and on a geophysical prospect.

Between these wells and in DeWitt County, another active operation is reported. Marshall Purvis is rigging up to deepen the old J. K. Davis et al's Afflerback 2, Section 44, 2 miles southeast of Yorktown. The well is to be carried to 7500 feet. It had been abandoned at 4485 feet.

Texas Gulf Coast

Chocolate Bayou wildcat logs deep Frio oil sand.

Get small oil and gas showings in test at Addicks.

Houston. — Chocolate Bayou, Brazoria County, will probably be the next oil field for the Texas Gulf Coast. Glenn H. McCarthy's Houston Farms Development Company 1, Perry & Austin Survey, logged over 25 feet of oil sand around 8900 feet in Frio formation which will not be tested at present as the hole is being carrier deeper. At the end of the week the well was shut down at 9706 feet in shale due to high water from rains.

Considerable interest was shown in Housh & Thompson's Krey 1 at Addicks, Harris County, last week when the well cored a few thin streaks of oil sands, and continued drilling below 7600 feet in shale. Cores at 7520 to 7530 feet showed 2 feet of oil and gas sand and 8 feet of shale; one at 7530 to 7535 feet, 5 feet of shale; at 7535 to 7545 feet, 5 feet of shale and 5 feet of sand with on oil and gas show; at 7545 to 7555 feet, 3½ feet of salt water sand; and at 7558 feet, salt water sand.

Texas Gulf Coast Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Aldine—		
Earl Hankamer, Rowland 1	24	6648
Barbers Hill—		
Texas Gulf, Higgins 1	427	4897
Danbury—		
Rowan Dr. Co., Jamison 10	82	1986
Dickinson—		
Bennett Oil Corp., Crocker 2	434	8752
Fairbanks—		
Johnson et al, Sumner & Grant 1	65	6845
Friendswood—		
Humble, West Prod. Co. 8	505	6041
Hastings—		
Stanolind, Moore 2	329	6107
League City—		
Phillips, Esperson 1	233	9098
Stewart Title 2	218	8704
Magnet—		
Humble, Cockburn 16	57	5545
Old Ocean—		
Harrison & Abercrombie, Larson-Edling 2	276	10,100
Orange—		
Gulf, Winfree-Fee A-10	232	5635
South Liberty—		
Noble & Baker, Welder 1	*	3182
Thompson—		
H. M. Naylor, Booth 3-B	1080	7780
Musselman 3	1080	7818
Tomball—		
Humble, Henrichs 3	288	5600
Withers—		
Texas Co., Broussard 12	100	5537
Chambers County—		
Nat Hunter, Lanz 1, ne of Anahuac, T. & N. O. No. 35	*	7609
Liberty—		
Stanolind, Flowers 1, Martha area, I. & G. N. No. 7	241	8108
Matagorda County—		
Continental, Savage 1, Collegeport area, D. Yeamans sur	¶½	4143

*Failures; †Junked; ¶Million cu. ft. gas.

To Test Again

Sun Oil Company is preparing to make another test on Cavalin 1 in the Buttermilk Slough area, Matagorda County. Casing was perforated from 7805 to 7810 feet and from 7882 to 7886 feet (above and below the 7850-foot sand) to shut off any salt water. Casing will be perforated at 7850 to 7860 feet for the production test. This sand was tested once and the well came in flowing oil and no salt water through open hole. It sanded. Sun plans to run screen and liner.

Continental Oil Company has completed Savage 1 in the Collegeport area, Matagorda County, as a small gas well, opening a new producing area for the Gulf Coast. Savage 1, completed at 4143 feet, made 678,000 cubic feet of gas daily through ⅛-inch choke with a tubing pressure of 1700 pounds.

On the northeast side of Fairbanks, Harris County, Kirby Petroleum Company's Hillebrenner 1, T. M. Dorsett Survey, was cleaning at the end of the week after casing was perforated with 21 shots at 6842 to 6846 feet. The well was flowing an estimated 8 barrels per hour through ¼-inch choke.

Union Producing Company's Daniel 1, outpost at Fairbanks, was cleaning into burning pits through a ¼-inch choke with a tubing pressure of 400 pounds. The hole was perforated with 12 shots at 6830 to 6841 feet.

Four Salt Water Sands

On the Magnolia Springs prospect, Jasper County, C. B. Bunte's Cartwright 1, E. O. LeGrande Survey, was drilling in shale at 5789 feet after coring salt water sands from 4418 to 4428 feet, 4487 to 4491 feet, 4534 to 4544 feet, and from 4616 to 4619 feet.

In the Fulshear area, Ft. Bend County, Jack Frazier and O. S. Martin's Blakley 1, F. Frederick Survey, was down to 8052 feet in shale. This wildcat, which has cored salt water sands in Frio, had odors of gas at 7976 to 7990 feet and from 7931 to 7946 feet.

East of production at Cedar Point field, Galveston Bay, Chambers County, Standard Oil Company of Texas has evidently missed the producing sand in State 13-117, which was drilling below 7050 feet in shale last week. Salt water sands were cored in the well at 6177 to 6189 feet and from 6217 to 6237 feet.

On a potential test, Stanolind Oil & Gas Company's new discovery at Martha, Liberty County, flowed 241 barrels of pipe line oil daily through ¼-inch choke from perforations at 8104 feet. Tubing pressure was 1400 pounds and casing pressure was 1580 pounds. Gravity was 41 degrees.

Anahuac Outpost Fails

Northeast of production at Anahuac field, Chambers County, Nat Hunter's Lanz 1, T. & N. O. No. 35, failed to find commercial production in Frio sands and was abandoned 7609 feet.

H. M. Taylor has completed two more good producers on the flank of Thompson field, Ft. Bend County, in the deep Vicksburg sand. On a potential test each of the wells flowed 45 barrels of pipe line oil per hour through ¼-inch choke. F. I. Booth 3 was completed at 7780 feet and O. F. Musselman 3 was completed at 7818 feet.

South Louisiana

Get several cores with oil odors at Vermilion Bay.

Merryville wildcat gets salt water on two tests.

Lake Charles.—Vermilion Bay salt dome, Iberia Parish, an area which has been discouraging to wildcatters in the past, may be the next oil field for the Louisiana Gulf Coast. The Texas Company's Vermilion Bay 3-B was bottomed at 10,241 feet and was setting casing at the end of the week. The crew recovered cores with odors of oil from the following depths: 10,169 to 10,171 feet, 10,179 to 10,188 feet, 10,188 to 10,192 feet, 10,195 to 10,196 feet, 10,197 to 10,200 feet, 10,200 to 10,207 feet, 10,212 to 10,217 feet, 10,218 to 10,220 feet, 10,222 to 10,227 feet, and from 10,231 to 10,239 feet.

The Texas Company has not abandoned efforts to establish commercial production around the flanks of Fausse Point dome in Iberia Parish, as last week it announced location for another deep test in Fausse Point 6, 4870 feet north and 5090 feet east of the northwest corner of Section 35-11s-8e. The company recently drilled a 12,000-foot test on this prospect and it cored several hundred feet of broken oil shows.

Recovery of salt water on two drill-stem tests in Atlantic Refining Company's Rice 1 on the Merryville prospect, Beauregard Parish, in Sparta formation last week, detracted from this wildcat. This test looked promising as a pool opener several weeks ago when an electrical log indicated it might produce oil from both Sparta and Wilcox

formation. Last week the wildcat was perforated with 21 shots at 7720 to 7740 feet and from 7585 to 7600 feet with 60 shots.

The first failure for Kennilworth field, St. Bernard Parish, is Vendome Petroleum Company's Kennilworth 1, 1500 feet northwest of the discovery well. It was abandoned at 11,234 feet. No shows of oil were reported. The discovery well, completed at 10,600 feet, is making about 48 barrels daily.

In the Unknown Pass area, Orleans Parish, W. T. Burton's L. & N. R. R. 1 was coring in shale and lime at 10,134 feet with a faint oil odor at the end of the week. This well drilled to 10,138 feet some time ago and attempted to blow out. It was plugged back and sidetracked. The wildcat is reported to have cored over 400 feet of possible producing formation. An electrical log showed from 25 to 30 ohms on the normal curve.

South Louisiana Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Abbeville—		
Continental, Duhon 1	139	10,526
Bancroft—		
Republic, Lutcher Moore 7	240	7641
Charenton—		
Pan American, South Coast 5	318	7170
East Hackberry—		
Texas Co., State 26-B	518	7838
Union Sulphur, Caldwell 8	627	7334
Kennilworth—		
Vendome Pet. Co., Kennilworth 2	*	11,234
North Tepetate—		
St. Mary Oil Co., Jenkins 1	*	9138
Raceland—		
Tide Water, South Coast 2	24	10,141
Sorrento—		
Pan American, United Lands 16	*	1641
Welsh—		
E. L. Buckley, Calcasieu National Bank 1	*	6545
White Castle—		
Shell, Wilbert 13	42	8752
Allen Parish—		
Bel Oil Co., Bel Estate 1, North Elton area, 22-6s-3w	20	7292
Assumption Parish—		
Shell, Ellis 1, Amelia area, 66-16s-14e	*	11,610
Evangeline Parish—		
Continental-Humble, Manuel 1, Reddel prospect, 33-4s-1w	*	11,341
Jefferson Davis Parish—		
Robert Bleake, Locke Moore 1, Fenton area, 29-7s-64	*	7510
Union Sulphur, Tietje 1, China area	*	9220
St. Charles Parish—		
The Texas Co., L. L. E. Paradis 1, Paradis prospect, 39-14s-20e	120	9915
St. Landry Parish—		
Adams-Deep Rock, Babineaux 1, Cankton area, 38-8s-4e	*	8975

*Failures; †Junked; ¶Million cu. ft. gas.

Nearing 13,000 Feet

Northwest of production at De Large, Terrebonne Parish, the world's deepest producing field, Fohs Oil Company's Buckley-Mahler 1 was drilling below 12,800 feet in shale, headed for the 13,266-foot producing horizon.

Continental Oil Company opened a new producing sand at Convent field, St. James Parish, last week when Realty Operators 2 came in after casing was perforated 8045 to 8066 feet with 48 shots. It came in flowing 204 barrels of pipe line oil in 22 hours through various size chokes. Tubing pressure was 4450 pounds and casing zero. The oil tested from 42 to 48 degrees. Realty Operators 2 is the second producer for the field, Realty Operators 1, the discovery well, came in from 6358½ to 6464½ feet.

Gulf Refining Company made another test on State 2 QQ in a new sand and recovered 50 feet of distillate and a 625-pound pressure in 20 minutes at Grand Bay, Plaquemines Parish, after perforating with 20 shots at 8980 to 8990 feet.

The Texas Company has made location for another deep test on the Bastian Bay prospect in Plaquemines Parish. State 1 is 750 feet north and 2750 feet east of the southwest corner of Section 43-20s-28e and in Bayou Fontenelle.

New Sand Near Abbeville

Twenty-one feet of new pay sand was discovered northwest of production at Abbeville field, Vermilion Parish, when Continental Oil Company's Duhon 1 came in after perforating casing at 10,505 to 10,526 feet. It flowed 139 barrels of 55-gravity oil daily and 2,000,000 cubic feet of gas through a 5/32-inch choke.

Part of acreage at St. Martinville field, St. Martin Parish, which was held by Tide Water Associated Oil Company was farmed out to Housh & Thompson, who will drill a deep test, C. Emile LeDoux 1, Section 57-11s-6e.

At China, Jefferson Davis Parish, Union Sulphur Company's Tietje 1 was abandoned last week at 9220 feet. The hole was plugged back in the first wildcat and several tests showed oil and salt water. The last test was made at 7504 to 7512 feet.

Reddel prospect, Evangeline Parish, appeared to be an unattractive prospect for Sparta and Wilcox production due to salt water showings in Continental Oil Company and Humble Oil & Refining Company's Manuel 1. Manuel 1 was drilled to 11,341 feet and the Wilcox formation carried no encouraging sands. Sparta sands were perforated at 9885 to 9905 feet with 48 shots. On a 10-minute drill-stem test, 4 stands of mud and salt water were recovered. The hole was abandoned.

Lake Mongoulois salt dome in St. Martin Parish, which has had several deep holes drilled by The Texas Company, attracted attention last week when this company's State 7 logged gas sands at 9816 to 9844 feet. The hole was down to 9901 feet in shale at the close of the week.

Reserves of Bancroft, Beauregard Parish, were enhanced last week when a new sand was discovered on the north flank of the field. Republic Production Company's Lutcher Moore 7, perforated with 10 shots at 7639 to 7641 feet, came in flowing an estimated 10 barrels of 43.9-gravity oil per hour through a 5/32-inch choke. The established horizon for the field is around 7350 feet.

Adams Oil & Gas Company and Deep Rock Oil Company's Babineaux at Cankton, St. Landry Parish, last week was abandoned at 8975 feet after having been reported high on structure until it cut a fault.

Louisiana permits

Thirty-eight drilling permits were issued last week by the Louisiana Conservation Commission, of which 10 were in North Louisiana and divided among the following parishes: Bienville 1, Caddo 6, Union 2, and Webster 1.

The 28 permits in South Louisiana were in the following parishes: Acadia 1, Assumption 1, Avoyelles 1, Beauregard 1, East Baton Rouge 1, Evangeline 1, Jefferson Davis 2, Iberville 1, Lafourche 12, Rapides 2, St. Martin 1, and Terrebonne 4.

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North Louisiana Fields

Shreveport field ends first year with 42 wells.

Sligo outpost logs good gas-distillate saturation.

Shreveport.—The Shreveport "backyard" oil field last week wound up its first year of development as a producing area with 42 oil wells and 1 gas producer since R. E. Allison, Shreveport independent, brought in his Ellerbe 1, on July 15, 1938.

Approximately 2700 acres have been proved up by the present group of wells and the lateral extent of the field seems to be defined in three directions, with only the east and southeast limits of the field, back into the city limits, remaining undefined. Six rigs are active in the area.

The accumulative production of the field as of June 1, was 811,915 barrels with the reserve forecast 4,000,000 barrels. Drilling in the field, where a 40-acre drilling pattern was adopted, was slow during the first several months, Allison not completing his second well, an offset, until October 3.

The field's forty-second oil well was completed last week by C. H. Lyons at Agurs 1, SE SE 34-18-14, flowing 20 barrels hourly through ¼-inch choke from lime logged from 5585-97 feet. Fourteen of the 42 oil wells are located within the city limits.

In field developments, holding outstanding interest was H. M. Harrell et al's Thompson 1, Section 20-17-11, 1 mile southeast outpost test in the Sligo field of Bossier Parish, which logged a good section of gas-distillate saturation in the Pettitt lime zone topped at 5067 feet. It was drilling below 5295 feet as arrival of casing was being awaited.

Hunt Oil Company started rigging up for a new northeast outpost test in the Bear Creek area, Bienville Parish, at Hodges-Southern Advance 1, C SL SW SW NE 36-17-6. It is 1 mile northeast of the company's Loe 1, recently completed to extend gas-distillate production 1 mile east.

Stanolind Oil & Gas Company's Dillon 131, Section 14-21-15, lower Marine test in the Pine Island area, Caddo Parish, drilled below 5342 feet in red shale and sand. Union Producing Company's Durrett 3, Section 5-19-5, new Sugar Creek field test, in Claiborne Parish, was at 3872 feet.

Union Producing Company's Walker 1, Section 30-18-8, 2 miles northeast of production in the Sibley area, Webster Parish, was abandoned after it failed to show anything on a third test in the Glen Rose series from 5610-60 feet. Perforating casing with 150 shots, and testing tool open 1 hour and 30 minutes, it recovered 5 stands of mud and 8 stands of brackish water. Old total depth was 10,383 feet in the lower Marine.

On the north flank of the Monroe field, Morehouse Parish, Union Producing Company has started moving in materials at Tensas Delta A-1, NE SE 8-22-4e, proposed Smackover lime wildcat. Work has been held up by back water from the Ouachita river.

In Grant Parish, R. W. Williams et al were rigging up for a new wildcat operation at Good Pine 1, C NL NW 10-8n-1w. Also in Grant, near Boyce, Longwood Oil & Gas Company of Shreveport arranged to spud a new wildcat at Thompson 1, Section 5-5n-3w, on a block of 8500 acres.

Southeast of Many, near Peason, a new Sabine Parish wildcat block has been assembled by Pruett & Longly of Tyler, Texas, centering around Section 24-5-9, and consisting of about 5000 acres. The operators are planning to start a 4500-foot operation before August 10.

Two new producers were completed during the week in the Cotton Valley field, Webster Parish. Hunt Oil Company completed Stewart 1, Section 32-21-10, flowing 352 barrels of oil through ¼-inch choke the first 24 hours. Casing was perforated from 8468-76 feet in the "D" sand of the lower Marine. The other new producer was Hunt Oil Company and Magnolia Petroleum Company's Gray-Cox 1, Section 19-21-9, flowing 10 barrels of distillate hourly through ⅜-inch choke. Total depth is 8410 feet in the Bodcaw series.

Arkansas permits

Eight new drilling permits, all but two of them in the Magnolia field of Columbia County, were authorized last week by the Arkansas Oil & Gas Commission as follows:

Columbia County — Phillips Petroleum Company's Longino 2, C NW SE 15-17-20; Southwood Oil Company's R. E. Walthall No. 2, C SW NW 22-17-20; Southwood Oil Company's H. F. Simmons 1, C NE SW 22-17-20; Southwood Oil Company's H. F. Simmons 2, C NW SE 22-17-20; Placid Oil Company's Couch 2, C NE NW 19-17-19; Standard Oil Company's J. A. Foster Unit 1, C SW NW 19-17-19.

LaFayette County—East Texas Ref. Co. and Erwin & Leach's Cleve Warren et al B-1, C S½ NE NW 24-16-24.

Lonoke County — W. L. Tedford's Anderson 1, C W½ NW NE 7-4n-9w.

North Louisiana Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Caddo Parish (Shreveport)—		
C. H. Lyons, Agurs 1, 34-18n-14w	475	5597
Webster Parish (Sibley)—		
Union Prod. Co., Walker Unit 1, 30-18n-8w	*	10,383
Webster Parish (Cotton Valley)—		
Hunt Oil Co., Stewart 1, 32-21n-10w	375	8476
Hunt-Magnolia, Gray-Cox 1, 19-21n-9w	300	8410

*Failures; †Junked; ¶Million cu. ft. gas.

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Arkansas Fields

Columbia County wildcat has show in Cotton Valley

El Dorado, Ark.—After making two unsuccessful attempts to test an oil showing in a porous sand of the Cotton Valley series from 6946-55 feet, Atlantic Refining Company's Pine Woods 1, closely watched South Arkansas wildcat southwest of Magnolia, Columbia County, was drilling ahead from 6960 feet.

In the first attempt to make a test, seat of testing tool gave way and on the second try, operators could not get testing tool down.

The thirteenth producer for the Buckner field, Columbia and Lafayette counties was completed last week by Standard Oil Company at McKean 5, Section 7-16-22. On initial gauge after acid treatment, the well flowed 105 barrels an hour through ½-inch choke. Casing pressure was 150 pounds and tubing 400 pounds. Total depth is 7247 feet.

Phillips Petroleum Company completed an oil well in the Magnolia field, Columbia County, at Joiner 1, Section 22-17-20, bottomed at 7780 feet. Initial gauge was not available. In the same area, Arkansas Fuel Oil Company was testing Crisp-Glascow 1, Section 23-17-20 at 7666 feet. Atlantic Refining Company's Foster 1, Section 24-17-20, was waiting on cement on producing string of casing at 7602 feet.

Third producer for the Atlanta field, Columbia County, loomed at Lion Oil Refining Company's Tissue 1, Section 15-18-19, which started coring at 8186 feet for the lime producing zone. Southeast of Village, the Columbia County wildcat of Twin City Development Company, Hollingsworth 1, Section 31-17-18, was below 4390 feet.

Shut down since late last year at 3851 feet, Mrs. S. O. Thompson et al are reported arranging to deepen General American 1, Section 20-14-26, Miller County wildcat, to the Smackover lime.

In the New London area of Union County, a new Smackover lime wildcat is reported being contemplated by Joe Modisett and associates. The new location, it is reported, will be in either Section 13 or 14-18-12. Last year the operators drilled a test in Section 8-18-12 and abandoned in Smackover lime after it showed salt water. This logged a thick section of porosity in the lime.

A new producer for the Schuler field, Union County, was completed last week by Lion Oil Refining Company at Frank 1, Section 12-18-18, flowing 37 barrels hourly through a 24/64-inch choke. Casing was perforated from 7610-30 feet.

Arkansas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Columbia County (Magnolia)—		
Phillips, Longino 1 15-17s-20w	525	7740
Joiner 1, 22-17s-20w	575	7780
Columbia County (Buckner)—		
Standard, McKean 6, 7-16s-22	550	7247
Lafayette County (Stamps)—		
Erwin & Leach, East Texas Ref. Co., Patton B-1, 24-16-24	85	3505
Union County (Shuler)—		
Lion Oil Ref. Co., Frank 1, 12-18s-18w	850	7630

*Failures; †Junked; ¶Million cu. ft. gas.

J. R. Lockhart is deepening Porter Jerry 1, Section 15-17-14, on the south edge of the Smackover field, Union County, in search of additional producing horizons after failing to find a market for the 16-gravity oil it found in the Graves sand.

The fourth producer for the Stamps field, Lafayette County, was completed last week by Erwin & Leach and East Texas Refining Company at Patton B-1, NE NE 24-16-24. Located between two producers, the well was completed flowing 85 barrels daily by heads from 3505 feet.

Operators spudded a new operation at Bodcaw Lumber Company 1, NE NE 19-16-23, mile northeast outpost test.

Kiowa lease sale

Tulsa.—Forty-seven tracts of Indian lands will be sold at auction at the Kiowa Indian Agency, Anadarko, Oklahoma, July 19, 1939. Counties represented include Caddo with two tracts, Grady with 16 tracts and Cotton with 29 tracts, total acreage being 6991.

Arizona wildcats continue to deepen

Phoenix, Ariz.—Late reports reveal that an electrical test run upon Samuel F. Reaves Fuqua 1, near Buckeye in Maricopa County, showed 310 feet of porous sand in 3 zones between 1720 and 2082 feet. Operators have decided not to develop the shows at this depth and are drilling deeper. Another Maricopa County test, Peoples Oil & Gas Company's Gardner 1, on the east outskirts of Phoenix, has spudded 18-inch hole and is drilling near 150 feet.

The deepest hole ever drilled in the state, Funk Benevolent Corporation's Fee 1, in Cochise County, was coring at 6596 feet in volcanic tuff and agglomerate and experiencing difficulties that indicated that it might be impossible to continue without rotary equipment.

First test in the northeastern part of the state as a result of a recent leasing flurry, Rincon Drilling Syndicate's State 1, in Apache County, was fishing for the tools at 400 feet.

New Mexico Fields

Increased drilling follows more line outlet. Chaves County's first deep lime producer completing.

Hobbs, N. M.—Authorization of 15 new tests for Lea County the past week marks the beginning of a period of more active development to result from important changes in the crude marketing and transportation conditions. Eight producing areas shared the new operations, with the Vacuum field accounting for 5 tests.

Approximately 600,000 barrels of back-allowable production credited to Lea County leases served by Shell Pipe Line Corporation is to be made up at the rate of 10 barrels daily per well. The company has been relieved of 4000 barrels of its daily runs by Humble Pipe Line Company. The bulk of the back allowable accumulated between April 10, 1938, and October 1, when the company's runs were restricted from 10 to 20 percent below the proration allowable.

Discontinuance of buyers' proration in the Vacuum field, which has about 450,000 barrels of back allowable that is exclusive of the above figure, became assured the past week when Magnolia Petroleum Company announced intentions of absorbing its own production. The latter has 56 wells, and is making arrangements for the delivery of its oil to Magnolia Pipe Line Company's West Texas system. When relieved of these wells, the two crude purchasers that serve the field have indicated that they will be in position to take the full quota, and possibly permit the runing of back-allowable oil.

This promised improvement in crude market conditions at Vacuum may have influenced the upturn in drilling. Magnolia Petroleum Company has started 3 tests, including State-Bridges 37, C NE SW 14-17s-34e, a northwest outpost; State-Bridges 38 and 39 in 26-17s-34e. Operations are underway on Ohio Oil Company's State-Staplin 1, account 2, C SE NW 19-17s-35e, and Humble Oil & Refining Company's State 7-K, C NE NE 32-17s-35e.

The Lovington pool is due to become more active now that the area has been given a direct pipe line outlet by The Texas-New Mexico Pipe Line Company, which made its first runs July 6. Magnolia Petroleum Company is the first to follow through in making location for State 2-Q, C SE NE 36-16s-36e. Amerada Petroleum Corporation's State 2-A-L, C NE SW 1-17s-36e, flowed 474 barrels of oil in 16 hours through tubing chokes, varying from ½-inch to 1-inch, with the hole bottomed at 4944 feet, and later gauged 89 barrels of oil in 2 hours through open tubing.

The sandy-lime belt in the east portion of the county accounted for 6 new projects. In the Hardy area, Magnolia Petroleum Company's Marshall Unit 3, C NW NW 34-21s-37e, flowed 174 barrels initial in 12 hours through ¼-inch choke after 225-quart nitro shot at 3668-3748 feet. Rig was skidded one location east for Marshall Unit 4, which was drilling at 770 feet. Danglade & Clower's Owens 3, near NE NE SW 34-21s-37e, was drilling below surface pipe. The Mattix field's new activity involves Amerada Petroleum Corporation's Johnson 3, C NE SW 27-24s-37e, and Carl B. King Drilling Company's Harrison-Tidal 2, north offset to a recent prolific completion on the lease. In the Langlie sector, Anderson-Prich-

ard Oil Corporation's Wells-Conoco 10, C N½ NW NE 4-25s-37e, and Richmond Drilling Company's State-Texaco 4-A, C NE SW 2-25s-37e, are starting up.

Barney Cockburn et al acquired Maljamar Oil & Gas Corporation's Baish 2-B, southeast portion of the Maljamar field, and developed a flow of 192 barrels initial after 200-quart nitro shot at 3916-94 feet. The test was drilled to 4001 feet. Location has been made for Baish 3-B, C NW NW 28-17s-32e. A north extension for the Cooper oil field is to be sought by Shell Oil Company's Roy Whitten 2, SE NE NE 33-23s-36e.

Three offsets will be required of The Texas Company's State - University 19-H, C SE NW 19-20s-37e, situated near the junction of the Eunice and Monument areas, which was drilling at 1130 feet.

Chaves County's first oil producer from the deep lime horizon was due for a production late last week after a heavy nitro shot. Nay Hightower et al's Billingslea 1, C SW NE 28-11s-30e, failed to flow following 400-quart shot at 3380-3441 feet, although it had previously swabbed from 40 to 50 barrels of oil and 6 barrels of water daily after using acid. The hole was plugged back from water at 3461 feet. Western Minerals Corporation's Dow 1, C SW NW 27-10s-30e, about 6 miles northeast of the above prospect, logged top of Yates at 1650 feet, with an elevation of 4086 feet, and was drilling at 2850 feet.

In Eddy County, Martin Yates and Continental Oil Company's Julia Brainard 1, southwest outpost for the Loco Hills pool, swabbed 71 barrels of oil in 2½ hours from broken pay at 2649-2701 feet. It will be given a nitro shot. Greater activity in the Shugart pool, eastern Eddy County, is likely to follow the entry for The Texas-New Mexico Pipe Line Company with a short extension from its 5½-inch trunk line. Sinclair Prairie Oil Marketing Company has agreed to purchase the allowable of the area.

New Mexico Completions

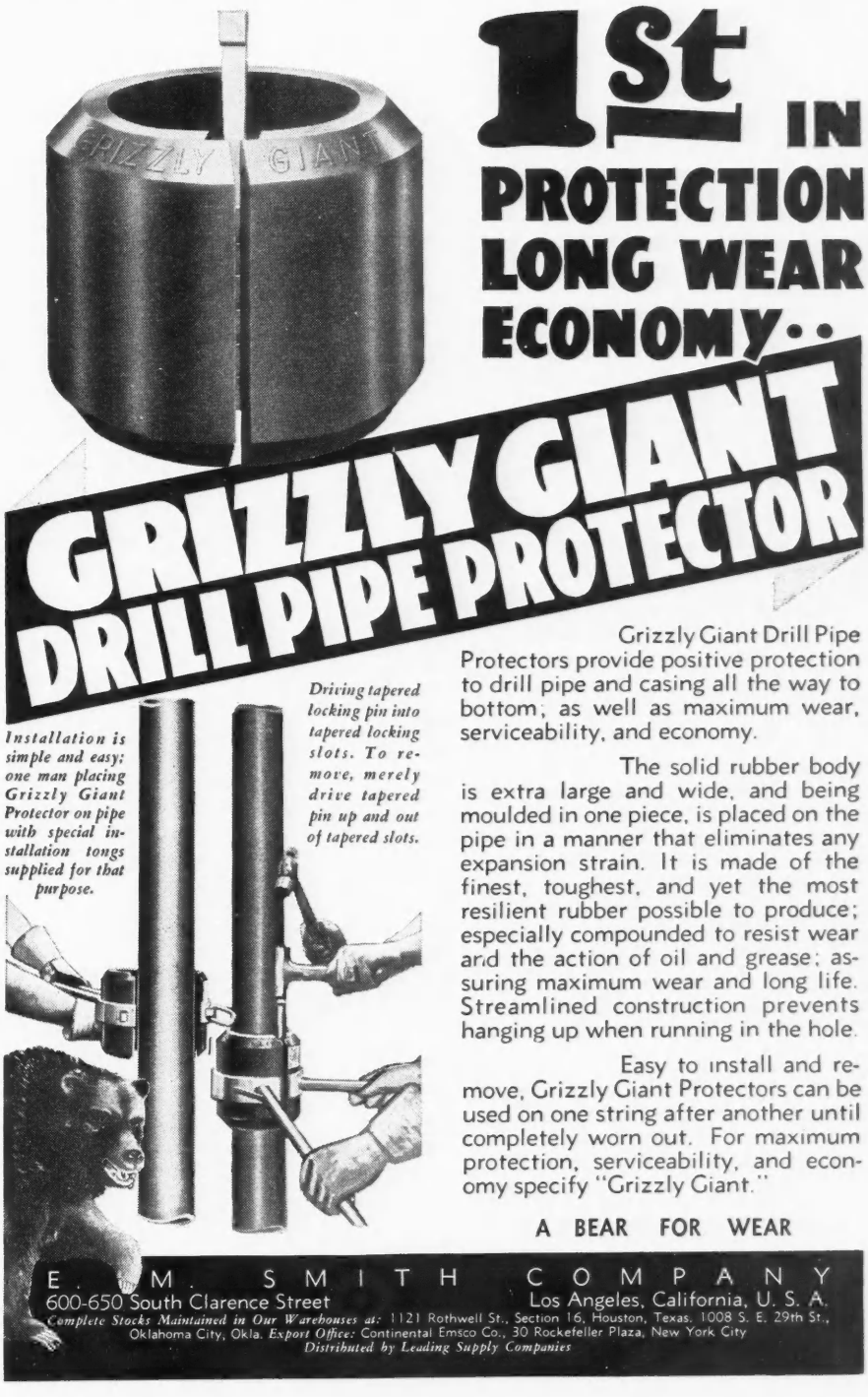
Company, Well and Location	Init. Prod. Bbls.	Depth
Eddy County—		
Carper Drl. Co.-Quillen, Quillen 1, c nw ne 12-19s-31e	*	2835
Fair et al, State 1, ne ne sw 1-18s-29e	840	2763
Nash et al, Jackson 9-A, nw ne 24-17s-30e	100	3510
Premier Pet. Corp., Beeson 1-F, sw nw sw 31-17s-30e	285	2794
W. K. Royalty Co., State 3-B, c ne nw 16-17s-31e	*	3806
Eddy County (Wildcat)—		
Repollo, West 3, ne ne ne 3-17s-31e	*	4483
Lea County (Eunice)—		
Gulf, Mattern 6-E, sw se nw 12-22s-36e	787	3765
Repollo, State 3-D-157, nw nw se 12-22s-36e	770	3755
Lea County (Hardy)—		
Danglade-Clower et al, Owens 2, near c w½ nw sw 34-21s-37e	576	3755
Magnolia, Marshall Unit 3, c nw nw 34-21s-37e	350	3750
Lea County (Lovington)—		
Amerada, State 2-A-L, c ne sw 1-17s-36e	1060	4944
Magnolia, State 2-R, c ne se 1-17s-36e	580	4960
Lea County (Mattix)—		
Continental et al, Jack 5-A-20, c nw se 20-24s-37e	336	3594
Carl B. King Drl. Co., Harrison-Tidal 1, c se nw 20-24s-37e	720	3582
Lea County (Vacuum)—		
Magnolia, State-Bridges 36, c nw nw 25-17s-34e	376	4590
Quay County (Wildcat)—		
McGee et al, Broncharo 1, 8-8n-33e	*	1000

*Failures; †Junked; ¶Million cu. ft. gas.

Rocky Mountain Area

Northeast Lance Creek extension proves new "high." Minnelusa to be objective of Dewey Dome wildcat.

Casper, Wyo.—Sundance sand pool of Lance Creek field in eastern Wyoming has received an important extension to the northeast in Continental Oil Company's Rodeo 6, NW NE 35-36n-65w, which is making 16 barrels per hour while cleaning out and completing at 4090 feet in the Basal member of the Sundance series. The well is ½ mile north of the nearest Sundance producer, Ohio Oil Company's Leo 1 OPC-7, eastern outpost location in the field, and opens a considerable area for further development. Checking consid-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erably higher than the Ohio well, the new Continental producer apparently proves a new high on the northeast end of Lance Creek structure.

A new deep test of Dewey Dome area in Weston County, northeastern Wyoming, has been started by Bruce C. Teeters, who is moving in standard equipment for State 1 in SW NE 7-41n-60w on a location spotted by E. W. Krampert, consulting geologist. The location is stratigraphically some 225 feet higher than the discovery well for the field, drilled in 1937 by Conway Oil Company in SE NW 7-41n-61w.

Dewey Dome anticline, a small northeast-southwest trending structure, is a terrace structure on the northeast rim of the Powder River basin. The present test well will be located on the closed dome on the northern end of the structure. Objectives will be Minnelusa horizons, which have proven prolifically productive in the Lance Creek field, 30 miles to the south.

The Kirby Creek field, Hot Springs County, north central Wyoming, will also see renewed drilling activity this summer. John W. Selby is spudding in Kyne 1, SW NW 22-43n-92w, the first new well started in the field in several years.

To Recomplete Discovery

The discovery well in Cole Creek, Natrona County, central Wyoming, General Petroleum Corporation's Government 1, NW NW SE 21-35n-77w, is preparing to pull 6⅝-inch casing from 7974 feet and will recomplete. The well drilled to test the Sundance sands at around 8500 feet, but found them non-productive, and cemented back inside the 6⅝-inch casing to test upper zones by gun perforation. The Dakota sand proved commercial and operators are preparing to recomplete the well in this and the original Lakota producing formation. Hole is to be plugged back to the 8⅝-inch string set at 6680 feet, where it is planned to set whipstock and redrill to the Lakota formation.

Heavy gas shows are reported in the Wyoming Petroleum Corporation's Charles Budd 1, CNE NE 10-29n-113w, important test on the Big Piney structure, Sublette County, western Wyoming. The well, drilling below 2280 feet in sandy lime, tapped a heavy gas producing zone at around 800 feet in the fall of 1938, blowing out near the first of the year and running wild at the rate of 40,000,000 cubic feet daily before being shut in. A heavy blowout preventer has been installed and heavier equipment used in order to prevent further accidents of this type. Another test is scheduled for Big Piney structure by the same operator in the near future. Development of a considerable gas reserve in the area is anticipated after determination of the producing extent of the field.

Operations are near critical depth in Libby-Keoughan et al's Sheets-Government 1, SE NE SE 9-55n-96w, southern extension test of Byron field, Big Horn County, Wyoming. The well has been drilled to 3910 feet where operators are underreaming to set production casing. Objective Tensleep sands are expected at around 4000 feet.

Michigan Fields

Two wildcats hit; Walker and Columbia are extended

Mt. Pleasant, Mich.—A mile northwest extension to Walker field, Kent County, flowing 33½ barrels per hour from 1865 feet in Traverse lime, all but overshadowed a number of important developments in Michigan this week.

Other highlights included establishing definite commercial production on a wildcat test in Ottawa County, 4 miles west of Walker; completion of a 15-barrel pumper better than ½ mile west of Walker, and extension of Columbia field, Van Buren County, ½ mile south.

Major interest centered on Voorhees Drilling Company's Cummings 1, SE SW SE, Section 30-7n-12w, Walker Township, Kent County, which averaged 33½ barrels per hour the first 8 hours on test before being pinched in. The well is producing from 1865 feet from Traverse limestone topped at 1849 feet.

Veteran Michigan operators, who witnessed the drilling in of the extension expressed the belief that the 5,000,000 feet of gas gauged in the top of the producing oil horizon was one of the biggest gas flows ever recorded in an oil horizon in Michigan.

Many operators believed that the Voorhees strike would prove to be the forerunner of a new closure on the same general trend and doubted that the mile wide area between the well and the producing field would all prove commercially productive. Previously drilled wells on the north side of the field showed the structure falling off and potentials were well below the field average.

Voorhees Drilling Company likewise figured in on a ½ mile west extension completion of the Walker field, with the company's Powers 1, NE NE SW Section 31-7n-12w, completed at 1923 feet for a 15-barrel pumper after acid treatment.

Voorhees Drilling Company, reportedly got 120 acres and an $8000 cash consideration for drilling the Cummings extension well from MacCullum & Herr, original holders of the lease.

Smith Petroleum Company & Strom-Wagner Trustees' Wisniswiski 1, Section 27-7n-13w, Ottawa County wildcat, was under pump test this week with operators indefinitely delaying acid treatment. The wildcat, 4 miles west of Walker, is pumping from 12 to 18 barrels per day natural in Traverse lime at 1894 feet. Four locations were staked in the area this week.

J. F. McGovern's Nielson 1, NE NW SW Section 24-1s-15w, Columbia Township, Van Buren County, ½ mile south of previously drilled production, topped Traverse at 1166 and bottomed at 1175 feet after filling up and flowing. It was shut in for tanks.

Mountain States Completions

MONTANA

Company, Well and Location	Init. Prod. Bbls.	Depth
Glacier County (Cut Bank Field)—		
Glacier Production Co., Larson 1, cwl nw ne 35-36n-6w	225	3120
Olive Oil Co., Winkler 5, ne ne ne 35-35n-5w	¶2½	2790
Santa Rita O&G Co., Jordan 2, se nw se 7-32n-5w	180	2913
Pondera County (Pendroy Dome)—		
Gulf States Oil Co., Zodiac 1, nw nw ne 33-28n-5w	*	2685
Toole County (Kevin Sunburst Field)—		
Superior Pet. Corp., Government 8, nw nw 12-35n-3w	*	1850
Toole County (Bow & Arrow Field)—		
Montana Gas Corp., Campbell 1, cnw ne 19-37n-1e	*	1793

WYOMING

Company, Well and Location	Init. Prod. Bbls.	Depth
Park County (Oregon Basin Field)—		
Dry Creek Oil Co., State 1, cne nw 16-50n-100w	*	1525

*Failures; †Junked; ¶Million cu. ft. gas.

Michigan Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Allegan County—		
Bell-Marks, Inc., Brower 2, ne sw nw 23-3n-12w	15	1690
Arthur Morris, Pope 1, ne ne ne 12-1n-15w	*	1344
G. R. Kernodle, Pike 1, sw sw se 34-1n-15w	*	1181
Sun, Thaler 1, ne ne sw 24-4n-11w	*	2284
M. L. Jorgensen, Heibel 1, sw se se 2-4n-13w	60	1607
Socony Vacuum, Weber 4, ne nw ne 11-4n-13w	300	1579
Norton, Inc., Junglass 1, nw nw nw 12-4n-13w	90	1584
Salem Oil Co., Smith 2, nw sw sw 14-4n-13w	100	1585
Redman Oil Co., Fee 4, w e ne 22-4n-13w	500	1581
Arenac County—		
L. H. Crandall, Dubey 2, se nw sw 25-19n-3e	15	2131
W. E. Ross, Crandall 1, c se se 10-20n-4e	¶10	1135
Branch County—		
LeBlanc, Sobeski 1, se sw se 31-5s-5w	*	1293
Clare County—		
Taggart Bros., Community 6, c s½ 10-18n-6w	¶1½	1486
Community 8, ne 15-18n-6w	¶½	1488
Gulf, Haring 1, c w ne sw 36-17n-4w	*	3883
Freeman Oil Co., State 2, c n sw sw 28-19n-6w	250	3880
American Drilling, Newcomber 2, c n ne ne 32-19n-6w	1800	3890
Socony Vacuum, Fell B3, c w w ne 33-19n-6w	2400	3892
Kent County—		
McClanahan Oil Co., Post 1, sw sw nw 16-8n-11w	*	2270
Voorhees Drlg. Co., Cummings 1, se sw se 30-7n-12w	660	1865
Powers 1, ne ne sw 31-7n-12w	15	1923
W. L. Harvey, Burgess 1, se se ne 32-7n-12w	50	1915
A. M. Henry, Slykhouse 2, se sw se 32-7n-12w	75	1844
Smith Pet. Co., Whalen 4, nw se sw 32-7n-12w	60	1890
Smith Pet. Co., Van Euwen 1, se nw sw 33-7n-12w	250	1807
Zeff 2, sw sw sw 33-7n-12w	125	1782
Lenoran Pet. Co., Maynard 2, ne sw nw 4-6n-12w	2200	1858
Wolverine Nat. Co., Thomasma 2, sw ne nw 4-6n-12w	350	1792
Crown Dev. Co., Johnson 3, se ne ne 5-6n-12w	200	1785
Swanson Oil Co., Van Dyke 6, sw se ne 5-6n-12w	1000	1802
Van Dyke 7, se se ne 5-6n-12w	340	1800
Fortney Oil Co., Land Association 1, sw sw se 23-6n-12w	*	1880
Missaukee County—		
Freeman Oil Co., Schut 1, c w sw se 4-21n-8w	*	4160
Montcalm County—		
Barber et al, Hackett 1, se nw nw 26-12n-6w	¶5	1275
Ottawa County—		
Freeman Oil Co., Van Dam 1, ne nw se 31-5n-13w	*	1840
Smith Pet. Co., Wisniswski 1, se se sw 27-7n-13w	15	1894
St. Clair County—		
Lee Brown, Marvin 1, sw ne nw 28-7n-16e	*	905
St. Joe County—		
A. J. Hoyt, Jailor 1, se se ne 12-6s-9w	*	1073
Van Buren County—		
Anna Prather, Merrifield 1, sw se ne 8-1s-14w	*	1285
W. P. Shoemaker, Goble 2, se sw se 13-1s-14w	*	1370
C. C. Goff, Miller 8, sw se ne 24-1s-14w	*	1350
Fisher & McCall, Moorehead 3, sw sw se 1-1s-15w	15	1184
Joe Van Anaman, Eastman 1, sw nw ne 13-1s-15w	650	1200
Clapsaddle & Harris, Locker 6, ne sw sw 13-1s-15w	45	1200
Pepper 5, sw nw nw 24-1s-15w	90	1211
Rowmor Corp., Kuhn 1, se nw ne 36-1s-17w	*	1215

*Failures; †Junked; ¶Million cu. ft. gas.

California Fields

Greeley field is extended by 11,942-foot producer.

Lloyd seeking extension of Ventura's "57" zone.

Texaco will explore previously condemned block.

Los Angeles. — Extending Greeley field of Kern County to the southwest, Standard Oil Company last week brought in KCL 12-6, deep test in Section 30-29-26, for an initial yield of 1800 barrels of 37-gravity oil per day from a new sand at a depth of 11,942 feet. Seven-inch is set at 11,900 feet. Production is coming from the Rio Bravo zone, topped at 11,850 feet. The upper portion of the zone was gray with some gas showings, but the lower portion was a gassy oil sand from 11,913 feet to bottom. The Greeley zone at 7997 feet was barren.

On the west side of Canal field, Shell Oil Company swabbed in KCL A25-14 for 1188 barrels of 37.2-gravity oil per day from 8340 feet through a 34/64-inch tubing (later reduced to 20/64-inch). Tubing pressure was 880 and casing pressure 20 pounds.

Los Angeles. — Lloyd Corporation, having completed a well in the "57" zone at Ventura Avenue recently for 5000 barrels, has started No. 3 to determine whether this zone underlies the corporation's holdings east of the field. Tide Water Associated Oil Company figures the 700 acres of "57" zone acreage added by Lloyd's completion enhances the potential recovery rating of the field materially.

The report that The Texas Company plans to drill in the NW of Section 24-20-18, east of the north end of Kettleman Hills on the Boston Land Company's property, comes six years after an extensive land promotion campaign was held in this same territory based on the well drilled into the Eocene formation by Ed McAdams in 1933, and later abandoned by the Union Oil Company. Geologists years ago said this same property was too far off structure and the oil too difficult to obtain, because of the depth required for drilling. Evidently, the change in drilling technique and improvements of equipment has improved the chances of development in this area. The Texas Company's Playa del Rey wildcat, west of Playa del Rey, Los Angeles Basin, is slated for spudding shortly. The Inglewood Extension 1 location falls 1000 feet south and east of the Empire Oil Company's Samarkand 1, a producer.

Salt water was produced one day last week by the Richfield Oil Corporation's KCL 1 at Wheeler Ridge. Bottomed at 11,004 feet, this project yielded 400 barrels of salt water per day and the company is endeavoring to locate its source. KCL 1 stood cemented for a month while Richfield negotiated for the leasing of 51,000 acres of Tejon Ranch, this property lving between Grapevine and Wheeler Ridge.

In less than 30 days, George F. Getty, Inc., has drilled Janssen 1 to better than 10,000 feet in search of the same productive zone developed in the Wasco field, Kern County, by Continental Oil Company's KCL A-2, discovery well. Janssen 1 is situated northwest of Standard Oil Company's Mushrush 1, or a mile west of present proved limits. It must go about 3000 feet deeper before tapping oil sand.

Western Gulf Oil Company will drill another outpost well in the Fruitvale area, northwest of Bakersfield. Bellevue 2, Section 34-29-27, will be drilled one location north of Bellevue 1 and in the southerly end of the field. KCL-Bellevue 1, NE corner of Section 34-29-27, bottomed at 3931 feet and was completed for an initial yield of 90 barrels daily.

Richfield Oil Corporation and Ohio Oil Company offset the Standard Oil Company's KCL 20-1, a gusher recently completed in Coles Levee field, Kern County, which produced 54-gravity oil and extended productive limits for one mile. Since its discovery, Coles Levee covers more area than the Coalinga Eocene field and is classed as one of the largest of the 9 mid-valley fields in Kern County.

California Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Los Angeles County (Athens Rosecrans)—		
Union, Rosecrans 32	216	7610
Universal Consolidated, Trust 17		7835
Los Angeles County (Montebello West)—		
Union, Calkins 2	650	7645
McVicar-Rood, Manz 2	1048	7630
Texas Co., Mulholland 5	250	7202
Los Angeles County (Wilmington)—		
Signal, Signal-LB-PD (LB) 3	100	4210
Union Pacific, UP (LB) 103	254	2895
Kern County (Edison)—		
Fred Siemon, Metro 1	120	4160
Kern County (Trico)—		
Standard, Tulare Farms 2-2	¶10	2470
Tulare Farms 2-4	¶5½	2470
Kern County (Belridge)—		
Belridge, No. 25	1100	8500
Kern County (Canal)—		
Shell, KCL A-24-14	1188	8340
Kings County (Kettleman North Dome)—		
Standard, No. 83-21Q	1395	7783
Ventura County (Shiells Canyon)—		
El Rancho, Elkins 3	125	3730
Ventura County (Ventura Avenue)—		
Tide Water Associated, Hartman 8	200	8810

*Failures; †Junked; ¶Million cu. ft. gas.

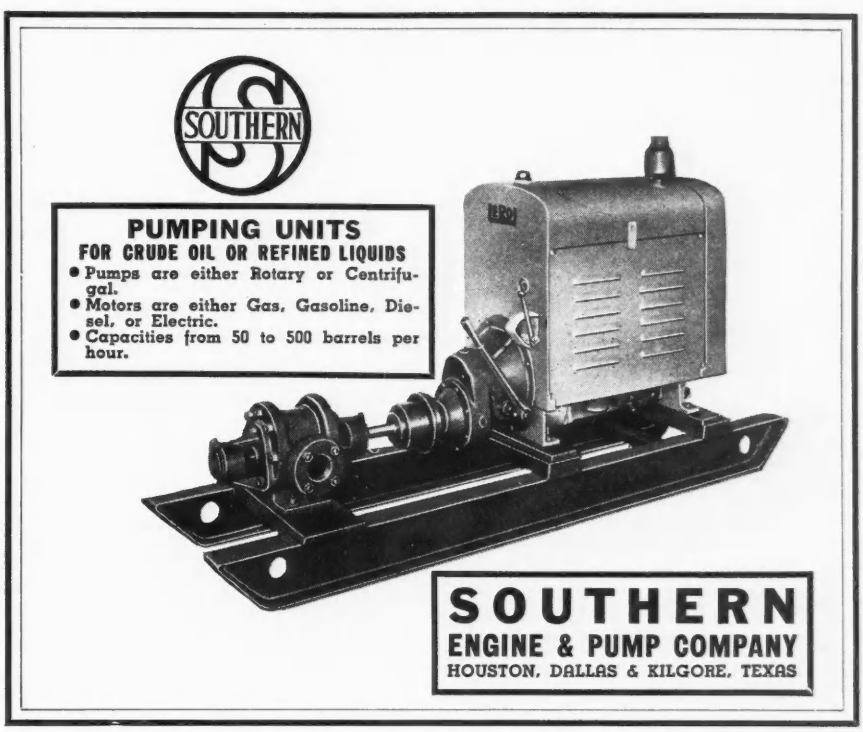
Dallas interests buy Pine Island properties

Simplex Oil Company of Shreveport, headed by Victor Wenzel, has sold to W. W. McDonald and associates of Dallas, Texas, its producing properties in the Pine Island field of Caddo Parish, involving about 27 oil and gas wells located on a spread of approximately 3000 acres in Township 20 north, Ranges 14 and 15 west.

Consideration was $50,000 cash and $110,000 to be paid out of the first half of the oil and an over-riding royalty of 1/32 from wells producing above the 2750-foot level and of 1/16 on wells producing below that depth.

The company was organized in 1927 by Victor Wenzel and the late Tom Taggert, United States senator from Indiana. They started from a small amount of acreage and it has grown to be one of the largest independent companies in this section. The new owners are contemplating a large drilling program on the properties.

Wenzel announced that Simplex Oil Company contemplates entering the royalty field in preference to active production.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WILDCAT REPORT
New Starts and Completions

CALIFORNIA
FIRST REPORTS

Los Angeles County—Texas Co.'s Inglewood Extension 1, grading roads, lcn 125 ft southeasterly, 275 ft westerly nec block 36 of resubdivision of Port Ballona and part of Wick's Addition, section 34-2-15, Playa del Rey area. Exeter Oil Co.'s Stern 1, lcn 680 ft s, 1550 ft w 22-3-10, East Coyote.

Kern County—Fred E. Cole's No. 19, lcn 330 ft s, 990 ft w nec 3-32-21, Elkhorn-Carriza area.

COMPLETIONS

Standard's KCL 20-1, 9-31-25, Coles Levee, 2175 bbls, 35,400,000 gas, oil sand 8430 ft, td 9216 ft.

ILLINOIS
FIRST REPORTS

Clark County—Patmin Production Co.'s Ingersoll 1, nw sw se 29-11n-14w, sp. Jinks Oil Co.'s W. A. Johnson 1, sw nw nw 36-10n-14w, dr. George B. Scherrit's S. Turner 1, se sw nw 14-11n-14w, dk.

Coles County — East Oakland Syndicate's W. J. Temple 1, sw se ne 36-14n-10e, dr.

Edwards County—Kingwood Oil Co.'s Johnson 1, se se ne 18-3s-7e, rig.

Effingham County—J. J. Searight's F. Wilson 1, nw ne 31-6n-53, rig.

Gallatin County—Kingwood Oil Co.'s Egyptian Fuel & Lumber Co. 1, c n½ ne sw 15-8s-10e, loc.

Jasper County — Thompson Drilling Co.'s Union Central Life Insurance Co. 1, c se se se 14-8n-10e, dr.

Jefferson County — Kingwood Oil Co.'s Woods 1, c nw ne 21-2s-4e, dk. W. R. Curry's H. H. Peterson 1, se se se 23-2s-1e, loc.

Jefferson County—Kingwood Oil Co. and Bur-Kan Oil Co.'s Woods 1, 21-2s-4e, loc.

Madison County—Fred Cary's J. Hassel 1, se se sw 11-3n-9w, loc.

Perry County—W. R. Hays et al's H. & F. Callens 1, se se sw 4-4s-1w, rig.

Shelby County—E. E. Goad's Hoagland 1, nw nw sw 14-9n-1e, rig.

White County—Kingwood Oil Co.'s Tullis 1, c e½ ne ne 29-3s-8e, dk.

COMPLETIONS

Clinton County — Paul Moseback's John Schemel 1, se se se 6-1n-3w, Santa Fe tnp, made 7 bbls water from Cypress, abnd 1027 ft. Webb Neal et al's Wm. Hussman 1, ne ne se 12-1n-2w, Lake tnp, abnd in St. Louis at 1600 ft.

Coles County—Perry Miller & Nash's A. S. Ingram 1, nw nw nw 16-11n-10e, Hutton tnp, abnd 743 ft.

Marion County—Miller et al's K. M. Beal 1, sw se nw 34-3n-2e, Tonti tnp, abnd in McClosky at 2277 ft.

Montgomery County — Soliday & Sands, Moon 1, ne ne sw 11-7n-3w, East Fork tnp, abnd 1065 ft. R. E. Johnston's Fuller 1, sw sw nw 7-7n-2w, Fillmore tnp, abnd 750 ft.

Richland County — Roy Wilson et al's (Kitchen & Wilson's) Wilson 1, se se se 13-3n-9e, top McClosky 3040 ft, abnd 3100 ft.

Saline County—Kingwood Oil Co.'s Ezbon Allyn 1, sw sw ne 11-9s-7e, Cottage tnp, top Fredonia 2700 ft, top St. Louis 2874 ft, abnd 3045 ft.

White County—Mazda Oil Co.'s Carmi Orphanage 1, se se ne 22-5s-9e, Carmi tnp, drilled to 3013 ft in McClosky, plugged back to Cypress between 2863 and 2888 ft, swabbed free oil at rate of 75 bbls day after shot.

INDIANA
FIRST REPORTS

Gibson County—Pete Thorp & J. K. Cleary's J. P. Ballard 1, ne se 18-2s-10w, rig for 2000 ft rotary test. Lewis & Armstrong's Blair 1, ne ne sw 8-2s-11w, Patoka tnp, dr.

KANSAS
FIRST REPORTS

Cowley County—C. J. Shaffer, Inc.'s Starlin 1, ne ne sw 27-30-4e, moving in.

COMPLETIONS

Greenwood County—Austin Reed et al's Sowder 1, se se nw 31-25-13e, shot 20 qts, pump 25 bbls oil 24 hours, 1597 ft.

Haskell County—United Production's Illinois Life 1, nw nw se 31-29-34w, 31,000,000 gas, 2737 ft.

Marion County—Tidewater & Ward McGinnis' Junghanns 1, se se se 23-18-5e, abnd Arbuckle 2226 ft.

Rice County—Bradley Oil Co.'s Ruhl 1, ce½ ne nw 24-19-10w, abnd 3316 ft. Finston & Co.'s Hathaway 1, cnl nw sw 27-19-10w, 812 bbls oil 8 hrs, 3043 ft. C. C. Nelson Drlg. Co.'s Hodge 1, nw nw ne 25-20-6w, Lansing 2890 ft, so in Miss 3301 to 3336 ft td, pumped 147 bbls 8 hrs, 3336 ft.

STATE	WILDCATS STARTED		WILDCAT TESTS COMPLETED							
			Total		Oil		Gas		Dry	
	This Week	This Year	This Week	This Year	This Week	This Year	This Week	This Year	This Week	This Year
Alabama	...	3	...	1	...	...	...	...	...	1
Arkansas	...	18	...	14	...	1	...	...	...	13
California	3	131	1	66	1	20	...	1	...	45
Colorado	...	...	...	1	...	...	...	...	...	1
Florida	...	1	...	1	...	...	...	...	...	1
Georgia	...	3	...	1	...	...	...	...	...	1
Illinois	13	302	8	215	1	18	...	...	7	197
Indiana	1	20	...	18	...	6	...	1	...	11
Kansas	1	138	6	118	3	42	1	4	2	72
Kentucky	...	11	...	13	...	7	...	...	...	6
Louisiana	1	70	1	52	1	9	...	...	...	43
North Louisiana	...	23	...	16	...	3	...	...	...	13
South Louisiana	1	47	1	36	1	6	...	...	...	30
Michigan	5	116	15	171	3	15	...	...	12	156
Mississippi	...	5	...	3	...	...	...	...	...	3
Missouri	1	24	...	1	...	...	...	...	...	1
Montana	1	2	1	2	...	...	...	...	1	2
New Mexico	...	22	2	10	...	1	...	1	2	8
New York	...	...	1	3	...	1	...	1	1	1
Oklahoma	2	99	3	99	...	13	...	5	3	81
Ohio	1	4	...	7	...	1	...	...	...	6
Pennsylvania	1	3	...	2	...	...	...	...	...	2
South Dakota	...	1	...	...	...	...	...	...	...	...
Texas	25	589	32	607	2	63	3	9	27	535
East Texas	3	70	...	52	...	3	...	1	...	48
North Texas	2	81	3	127	...	21	...	1	3	105
Gulf Coast	2	62	4	50	2	5	1	1	1	44
Panhandle	...	6	...	6	...	...	...	...	...	6
South Texas	14	249	17	268	...	21	2	5	15	242
West Texas	4	121	8	104	...	13	...	1	8	90
Utah	...	1	...	...	...	...	...	...	...	...
West Virginia	...	2	...	1	...	...	...	...	...	1
Wyoming	1	3	...	1	...	...	...	...	...	1
Total U. S.	56	1,569	70	1,414	11	197	4	22	55	1,195

SOUTH LOUISIANA
FIRST REPORTS

Avoyelles Parish—C. B. Bunte's Hines Tie & Timber Co. 1, 700 ft westerly along the n line and 330 ft s at right angles from nec of lot 6 of fractional se¼ se¼ of sec 24-3n-2e, lcn.

COMPLETIONS

St. Charles Parish—The Texas Co.'s L. L. E. Paradis 1, Paradis prospect, 11,723 ft s, 7909 ft e of nwc of 14s-20e, in sec 39, dr to 10,787 ft, pb made several tests, finally comp 9895 to 9915 ft, 120 bbls distillate daily, 53.7 gravity, ¼-in choke, tp 2800 pounds.

MICHIGAN
FIRST REPORTS

Kalamazoo County—R. R. Dickerson's Kirby 1, nw ne nw 5-2s-9w, rig.

Kent County—C. J. Neal's Robinette 1, sw se ne 34-8n-11w, dr.

Midland County—Will Brown's Coleman 1, nw nw 11-13n-2e, dr.

Muskegon County—Lentz & Millers' Bolen 1, se nw ne 19-10n-15w, dr.

Van Buren County—Henry F. Ostrander's Dishon 1, nw se se 36-2s-17w, rig.

COMPLETIONS

Allegan County—Arthur Morris' Pope 1, ne ne ne 12-1n-15w, Traverse 1320 ft, abnd 1344 ft. G. L. Kernodle's Pike 1, sw sw se 34-1n-15w, Traverse 1165 ft, abnd 1181 ft. Sun's Thaler 1, ne ne sw, 24-4n-11w, Traverse 1937 ft ,abnd 2284 ft.

Branch County—Ralph LaBlanc et al's Sebiski 1, se sw se 31-5s-5w, Traverse 1274 ft, abnd 1293 ft.

Clare County—Gulf's Haring 1, c w ne sw 36-17n-4w, dry in Dundee, td 3883 ft, pb to 1346 ft, to Stray sand oil show, shot, abnd.

Kent County—McClanahan Oil Co.'s Post 1, sw sw nw 16-8n-11w, Traverse 2252 ft, abnd 2270 ft. Voorhees Drilling Co.'s Cummings 1, se sw se 30-7n-12w, Traverse 1849 ft, td 1865 ft, initial production 5 mil. ft gas and 33½ barrels oil per hour, estimated initial oil production 660 barrels per day, mile northwest extension Walker field. Voorhees Drilling Co.'s Powers 1, ne ne sw 31-7n-12w, Traverse 1871 ft, td 1923 ft, acidized, after acid pump initial 15 barrels day, mile west extension Walker field. Fortney Oil Co.'s Land Association 1, sw sw se 23-6n-12w, Traverse 1805 ft, abnd 1880 ft.

Missaukee County—Freeman Oil Co.'s Schut 1, c w sw se 4-21n-8w, Dundee 3950 ft, so 4017 ft, water 4080 ft, abnd 4160 ft.

Ottawa County — Freeman Oil Co.'s Van Dam 1, ne nw se 31-5n-13w, abnd 1840 ft in Traverse. Smith Petroleum & Strom Wagner trustees' Wisniswiski 1, se se sw 27-7n-13w, Berea 1060-1120 ft, gauged 9,180,000 ft dry gas, Traverse 1834 ft, saturation 1834-39 ft, 1846-48 ft, 1880-90 ft, td 1894 ft, filled up 1300 ft with fluid, pumping 15 barrels day natural, discovery.

St. Clair County—Lee Brown's Marvin 1, sw ne nw 28-7n-16e, abnd 905 ft in Dundee.

St. Joe County—A. J. Hoyt's Jailor 1, se se ne 12-6s-9w, abnd 1073 ft in Traverse.

Van Buren County—Rowmor Corp.'s Kuhn 1, se nw ne 36-1s-17w, Traverse 1065 ft, abnd 1215 ft.

MISSOURI
FIRST REPORTS

Bates County—G. R. Patton's Lee 1, csw se 11-39n-30w, spud.

MONTANA
FIRST REPORTS

Toole County—Coolidge & Coolidge's Forseth 1, e se ne 8-35n-3e, 6 miles northwest of Grandview postoffice, rust. This is the first test in Montana drilled on a gravity meter-magnetometer survey location.

COMPLETIONS

Pondera County—Gulf States Oil Co.'s Kellog 1, (Zodiac), nw nw ne 33-28n-5w, Pendroy Dome structure, abnd 2685 ft, water in Madison.

NEW MEXICO
COMPLETIONS

Eddy County—Repollo Oil Co.'s West 3, ne ne ne 3-17s-31e, elev 3999 ft, top anhydrite 625 ft, base salt 1810 ft, abnd in hfw 4476-83 ft.

Quay County—H. McGee et al's Broncharo 1, 8-8n-33e, abnd 1000 ft.

NEW YORK
COMPLETIONS

Steuben County—Rehler et al's Foster Estate 1, Thurston tnp, top Onondaga 3911 ft, top Oriskany 3931 ft, salt water, abnd 3934 ft.

OHIO
FIRST REPORTS

Franklin County—Carl Blacksten et al's E. J. Simms 1, Section 15, Madison tnp, 8 miles south of Columbus, rig.

OKLAHOMA

FIRST REPORTS

Alfalfa County—F. W. Dye et al's Belter 1, cse 32-28-10w, br.

Noble County—Shell's Mosena 1, cw½ w½ se 9-21-2e, cellar and pits.

COMPLETIONS

Harmon County — Ruso Drlg. Co.'s Abernethey 1, csw sw 12-2n-26w, abnd 2802 ft broken lime.

Lincoln County—Mason & Nuckolls' Lindsay 1, sw se se 26-12-3e, Checkerboard 3510 ft, Sylan 5275 ft, Viola 5381 ft, 2nd Wilcox 5541 ft, abnd 5560 ft. Cooper Drlg. Co.'s Blaney 1, sw sw nw 13-14-5e, abnd 3859 ft.

PENNSYLVANIA

FIRST REPORTS

Butler County—Sonth Penn Oil Co.'s M. A. Fowler Heirs 1, 12 miles north of Butler, moving in materials.

WEST TEXAS

FIRST REPORTS

Jones County — Jones-Stasney & Byron's Jacob Muelstein 1, 440 ft west of center of east line ne¼ sec 28, Deaf & Dumb Asylum Lands, sp for Palo Pinto lime test.

Nolan County—Plymouth Oil Co.'s Mrs. F. McClure 1, sw ne nw T&P sec 49, blk 23, 2½ miles east by south of Roscoe, rur for 8000-ft test.

Taylor County—F. H. Brock et al's L. E. Tipton 1, sw ne ne T&P sec 20, blk 18, sp and sd.

Tom Green County—Dave Elder et al's J. H. DeLong 1, 1680 ft fr e and 330 ft fr n lines sec 83, blk 1, Jas. Webb sur, sp for 550-ft test.

COMPLETIONS

Concho County—Clymore Co., Inc.'s T. Y. Hill 1, 2310 ft out of nec section 1694, J. Frederick sur A-197, elev 1607 ft, top Ellenberger 2337 ft, abnd 2565 ft.

Crane County—P. A. Christian et al's M. F. Stepenson 1, 330 ft fr n and 1050 ft fr e lines of S-160 acres of n½ W. A. Bates sur No. 40, Crane townsite, top anhydrite 1050 ft, abnd in sul w 3345 ft.

Fisher County—Frank W. Bennett-Frank Campbell et al's Martin-Shell 1-a, 2310 ft fr s and 510 ft fr w lines H&TC sec 113, blk 1, elev 1870 ft, top Saddle Creek lime 3343 ft, abnd 3902 ft.

Dawson County—Magnolia Petroleum Co.'s J. B. Fry 1, nw nw se T&P sec 8, blk 35, T-4-N, elev 2895 ft, top anhydrite 1700 ft, top salt 1772 ft, top Yates 2420 ft, top frosted grains 2440 ft, top lime 3780 ft, top sul w 4488 ft, abnd 5258 ft.

Presidio County—L. C. Brite Prod. Co.'s Fee 4, c nw¼ GH&SA sec 113, blk 12, elev 3255 ft, abnd 5602 ft.

Stonewall County — Forest Development Corp.-Carl B. King's A. Moreland 1, c sw se H&TC sec 183, blk D, elev 1829 ft, top Palo Pinto lime 5137 ft, abnd 5545 ft.

WEST CENTRAL TEXAS

COMPLETIONS

Eastland County—Day & Hightower's Wilkerson 1, sec 4, T&NO Ry. sur, abnd 702 ft.

Stephens County—The Falcon Co.'s Hopper 1, sec 1142, TE&L Co. survey, elev 1417 ft, abnd 3815 ft.

EAST TEXAS

FIRST REPORTS

Angelina County—Sewell & Murphy's Long Bell Lumber Co. 1, 1660 ft e and 5520 ft n of J. C. Bonham et al's Cameron Lumber Co. 1, but in HT&B Ry. sur, 3 miles e of Zavalla, dr 50 ft.

Hopkins County—W. P. Vaughn et al's H. W. France 1, 320 ft out of nec of 175-ac tract, J. B. Hill sur, 2 miles n of Sulphur Bluff field, rig.

Smith County—O. L. Ross et al's W. P. Rushing 1, 478 ft out of nec of 29-acre tract, or 2850 ft fr s and 3250 ft fr w lines of J. Herrin sur, 1 mile e of Whitehouse, rig.

NORTH TEXAS

FIRST REPORTS

Archer County—Bert Davis et al's F. M. Power 1, 950 ft fr w and 2000 ft fr s lines John Richards sur A-367, or 125 ft fr w and 127½ ft fr s lines of Archer City townsite blk 19, Gunsight lime 1301-03 ft, testing o.s. 1314-16 ft.

Cooke County—John A. Pace et al's D. W. Donnell 1, 1650 ft fr se and 400 ft fr sw lines of S. P. Ry. survey A-985, blk 15, 5 miles w and 2½ mi s of Muenster, lcn.

COMPLETIONS

Clay County—John E. Farrell & Crouch's C. P. Malone 1, 330 ft out of nec T&NO sec 12, A-828, 4 mi se Henrietta, abnd 5545 ft.

Montague County—Seitz-Comegys & Seitz, Inc.'s J. I. Bright 1, 330 ft fr n and 1972 ft fr m/e/e line of N. M. Murphy sur A-981, 4½ mi ne Bonita, trace oil in sand 870-90 ft, abnd in shale 3013 ft.

Young County—L. V. Hull-W. W. Silk et al's H. N. Tucker 1, sec TE&L Co. sec 180, abnd 5023 ft.

SOUTH TEXAS

FIRST REPORTS

Bastrop County—Marts and Beavens, Inc.'s, Woods Heirs 1, Dennis Dykes sur, moving in.

Guadalupe County—M. H. Dees' Bradnax 1, 900 ft nw line, 1200 ft ne line of 90-ac tr, J. G. King sur, lcn. Lincoln Petroleum Co.'s Lowman 1, George Allen sur, rigging up.

Hidalgo County—Pharr San Juan Oil Company's Kelly Estate 1, 425 ft s line, 330 ft n line of blk 226, Kelley-Pharr subd, por 69, on 2500-ac blk released by R. A. Harding, to spud by July 19.

Jim Wells County—Laverne Decker and E. F. (Tiny) Kalb's Gallagher Est. 1, center lot 2, sec 16, J. H. Gallagher subd, "Casa Blanca" Juan Jose de La Garza Montemayor and Sons gr., Ab-296, lcn.

Kimble County—C. H. Wolff's Wilkins 1, 2280 ft s line, 2280 ft e line of se½ sec 24, Brooks and Burleson sur, lcn.

McMullen County—Bruce Albright's Theim 1, 330 ft n line, 330 ft w line of 40-ac tr, sec 32, Two Rivers Ranch subd, lcn. Edwin M. Jones' Ezzell 94, 330 ft s line, 330 ft e line of sec 40, Ezzell Ranch subd, S. M. Hodges sur 12, lcn.

Milam County—M. B. Cloud, Trustee's Henniger 1, 175 ft w line and 987 ft s line of 65-ac tr, S. C. Robertson sur, lcn.

Refugio County — Humble's Thompson 4, 1399 ft n of s'ly s line, 466 ft w of 3 line of Thompson ranch, Cuadrilla Irrigation Co. sur, digging pits.

Victoria County—John G. Mayo's Weaver 1, 330 ft n line, 330 ft w line of 459-ac tr, Diego Garcia sur, lcn. Oliver Oil Co. and Renwar Oil Corp.'s Johnston 1, 520 ft w line, 444 ft s line of 65-ac tr, blk 14, P. M. Johnston subd to Bloomington townsite, Francisca Perez sur, set sur csg, wainting on cement. John Mayo et al's Vogt 1, 330 ft se line, 330 ft w of Bank of Cypress Bayou, Pope Dimmit survey, moving in.

Webb County—Francis J. Hynes' Bruni 2, 1128 ft s line, 150 ft w line of T. Burtrends sur 2184, spudded.

San Patricio County—Arnold O. Morgan et al's No. 1 H. S. Smith, 1187 ft w line, 244 ft s line of s 40-ac, blk 22, J. J. Welder and Coleman-Fulton Pasture Co. subd, John Pollan sur, reinstated, set csg, waiting on cement, no details, td 7021 ft.

COMPLETIONS

Duval County—Nicholls' Graham 1, 330 ft ne, thence 330 ft nw at rt ang fr n'ly n cor of 40-ac V. Garcia tr and in Cuadrillo Irrigation sur 572, top Hockley 3924-40 ft, top Pettus 4760 ft, gas and oil sand 4760-95 ft, comp. estimated 10 million cubic feet gas, spray oil through ⅛ choke, 1440 tubing and 1660 casing pressures. Perforated 4784-90 ft with 24 shots.

Hidalgo County—E. L. Smith and Wheelock & Collins et al's Yturria Land & Improvement Co. 1, 466 ft s line, 466 ft w line of 1000-ac lse in por 42, estimated 10 million cubic feet gas, equalized closed in press. 1300 pounds, perf. 3480-84 ft.

Frio County—H. F. Wilcox Oil and Gas Co.'s Harris 1, 330 ft ne line, 330 ft se line, sec 3, Hooper and Wade sur, top Edwards 4134 ft, abnd 4192 ft.

Guadalupe County—Great Southern Oil Co.'s Ruedrich 1, 150 ft n line, 150 ft e line of 100-ac tr, W. C. Baxter sur, C. E. Ruederich subd, top Eagleford 1397 ft, abnd 1407 ft, showed 3½ ft saturation in chalk.

Jim Wells County—H. H. Howell's Lindsay and Reed 1-A, 330 ft w line, 467 ft s line of lot 21, W. L. Whitman subd of Los Altos gr, salt water sand 5408-94 ft, abnd 5740 ft. R. A. Irwin et al's Garcia 2 (1), 330 ft n line, 330 ft e line w½ of subd 4, R. J. Kleberg sur 102, Ab-273, abnd 5913 ft.

LaSalle County—Eugene Garner's Yeager 4, 400 ft e line, 660 ft n line of blk 7, section 8, J. H. Gibson sur 39, abnd 1036 ft, no details.

Live Oak County—R. G. Putillo and M. R. Sanguinet's Miller 1, 1020 ft nw line, 6600 ft sw line, Willis P. Darby sur, Ab-1022, abnd 5101 ft.

McMullen County—J. W. Basom, Trustee's Jacob Corp. 1, 330 ft n line, 330 ft w line of w½ ne¼ of W. H. Jacobs sur 50, top Lignite at 581 ft, abnd at 963 ft. Gordon Griffith's Dilworth 1, 450 ft w line, 750 ft n line A. Moore sur 61, abnd 2620 ft.

Medina County—J. I. and J. W. Cromwell's Tschirhart 1, 550 ft w line, 2250 ft e line of 485-ac tr, J. B. Rogers sur 18, top Austin chalk 1045 ft, top Edwards 1430 ft, abnd 1534 ft, sulphur water in Edwards.

Milam County—Brown and Dovre's Hancock 1, from s cor 862.2-ac tr, 7636 ft ne along sel, thence 1914 ft nw at rt ang. J. J. Acosta league, sand oil odor 298-99 ft, abnd 375 ft.

Nueces County — Texas Conservative Oil Co.'s Wright 1, 330 ft n line, 330 ft e line of nw¼ sec 46, George H. Paul's subd Driscoll Ranch in Joaquin Lopez de Herrera gr, abnd 6010 ft.

Refugio County — Phillips Drilling Co.'s Hunsdon 1, 990 ft s line, 660 ft w line of sw¼ of sw¼ section 27, Johnson and Pugh subd of the Bonnie View Ranch, abnd 7020 ft.

Webb County—Francis J. Hynes' Bruni 1, 330 ft n line, 330 ft w line of M. T. Tippin sur 2241, top Mirando 2427 ft, top Pettus 2805 ft, sand 2805-24 ft, abnd 3010 ft.

Starr County—Herbert Aid's Escobar 1, 150 ft s line, 150 ft w line of tr 7-B, por 72, Jurisdiction de Camargo, sand with oil odor 715-33 ft, salt water sand 733-41 ft, abnd 1012 ft. Clopton and Mitchell's Tijerina 1, 350 ft most s'ly n line, 1000 ft most e'ly e line of 640-ac lse, share 14-C, por 80, abnd 1412 ft.

Travis County—Burns Oil Co.'s Bengston 1, scales: 4080 ft se line, 2360 ft ne line of Henry Martin sur 65, abnd at 1400 ft.

TEXAS GULF COAST

FIRST REPORTS

Chambers County—J. R. Turnbull's W. C. Sheppard 1, Cotton Lake area, 150 ft s of the most southerly n line and 760 ft w of the most easterly line of R. A. Potter sur, spudded.

Jefferson County—Magnolia's Phelan 6, nw of Cheek, 466 ft s of n line and 466 ft e of w line of 348-ac tract in H&TB 1, lcn.

COMPLETIONS

Chambers County—Nat Hunter's Lanz 1, ne of Anahuac, 330 ft out of the sec of 620-ac tract, T&NO No. 35, abnd 7609 ft.

Jefferson County—Geo. Echols, Hebert & Smith's Fontenot 1, South China area, 466 ft each way out of the most westerly swc of tract in H&TB 107, dr to 8785 ft, pb and comp. 202 bbls 37 gravity oil daily, at 7882 to 7885 ft.

Liberty County — Stanolind's Flowers 1, Martha area, 466 ft n of s line and 1410 ft w of e line 110-ac tract in I&GN No. 7, dr to 9109 ft, pb and comp 8104 to 8108 ft, 241 barrels 41 gravity oil daily.

Matagorda County—Continental's Savage 1, Collegeport area, 1050 ft n and 2300 ft w of sec of D. Yeamans sur, dr to 5651 ft, pb and comp 4143 ft, 678,000 cubic ft gas daily.

WYOMING

FIRST REPORTS

Converse County—U & I Oil Syndicate's Geo. Beaver 1, se nw 29-35n-68w, 30 miles northeast of Douglas, mist.

FOR SALE—18 Lee C. Moore 72′ used steel derricks, good condition, delivered in Texas, $275 each. Box 89, c/o THE OIL WEEKLY, Houston, Texas.

FOR SALE — Several Wilson Giant Drawworks, new and slightly used. Powered by International and Waukesha Motors. Earl H. Carter, Box 1227, Shreveport, Louisiana.

JACK A. SCHLEY
Patent Attorney
(Established 1902)
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NOTES FOR THE Equipment Buyer and User

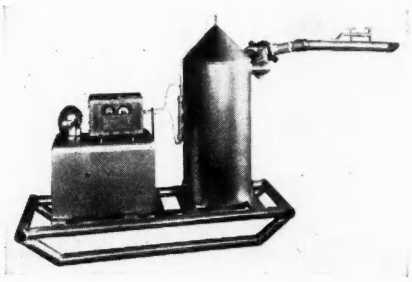
Crown Block

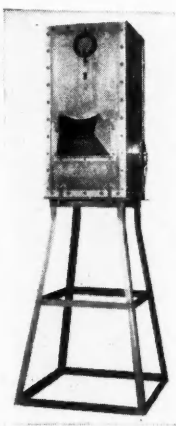
THE NATIONAL SUPPLY COMPANY

The National Supply Company, Toledo, Ohio, has placed on the market a new rotary crown block for light rotary drilling. This block, known as the Ideal Type D-6, is a unit of improved design that is narrower and stronger in proportion to weight and operates with less friction and lower maintenance.

Spacers are entirely eliminated on this block by carrying each sheave in a double row Timken roller bearing. This does away with the continual friction and wear caused by spacer contact. Sheaves and bearings are completely self contained assemblies without any side contact except that of the stationary inner races. The elimination of spacers has also resulted in a desirably narrower width with reduced shaft stress. In addition, since wear is entirely on the readily replaceable hardened and ground outer and inner races of the Timken bearings, it is unnecessary to harden the surface of the shaft. This has made possible the use of a heat-treated alloy steel shaft with a more desirable combination of strength and ductility for this service.

Each bearing is lubricated by individual Alemite fittings through separate grease passages in the shaft. Longer bearing life is assured by the use of labyrinth type oil seals which seal against the intrusion of dust and water. The main sheaves are of heat-treated steel. Rims are wide and spacing is close to prevent the wire line from fouling. The complete block may be hoisted into position or the shaft assembly removed as a unit. A 12-inch catline sheave is regular equipment. The diameter of the main sheaves is 30 inches. The width with cat sheave removed is 27¼ inches and the net weight complete 2195 pounds. Full details are given in National Descriptive Bulletin No. 241.





The Mid-Continent Gas Detector, above, is connected with the rig and sounds a siren warning the moment gas-bearing sand is reached. The Fluoroscope, right, reveals crude oil in drilling mud in solution of no more than 1 part in 1 million.

Oil-Gas Detector

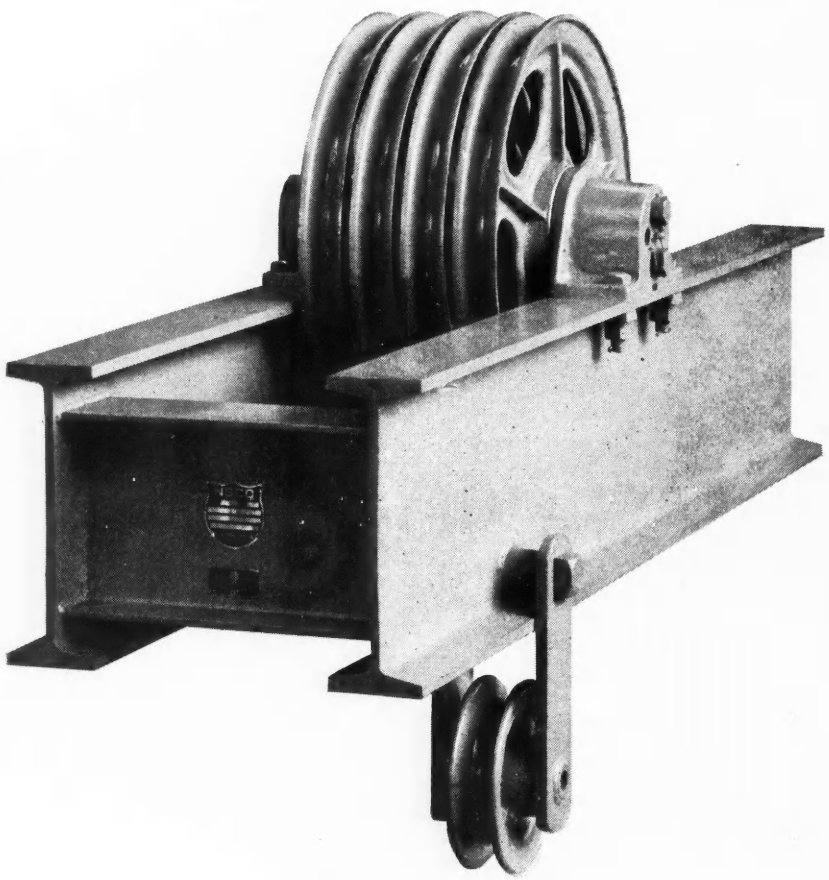
MID-CONTINENT SUPPLY COMPANY

Mid-Continent Supply Company, Fort Worth, Texas, offers two newly developed devices, the Mid-Continent Gas Detector and the Fluoroscopic Lamp. Designed to eliminate the hazards of passing up oil and gas sections in wildcat wells, these instruments provide a method of testing for oil- and gas-bearing sands.

Being fully automatic in its operation, the gas detector is easily added to the rig equipment. As drilling progresses a 2-inch stream of mud on its way to the slush pit is diverted through the instrument. Any gas present in this mud is released as the mud passes through the separator. The gas that is released is transferred from the top of the separator to a chamber in the instrument which is sensitive to the slightest variation in electrical resistance. A concentration of natural gas as low as 2 percent in the air entering this compartment will result in an electrical contact which sounds a siren warning to the driller that gas is present. Two percent gas mixed with 98 percent air forms a mixture that is far too weak to be detected by other methods that depend on odor or ignition.

When the alarm has sounded, the driller readjusts his instrument to detect any increase in the concentration of the gas carried by the mud. In attempting to seal off a high-pressure sand the robot gas detector comes to the driller's aid in supplying information as to the wall-building action of the mud through which he is drilling.

After being warned by the gas detector, the driller then begins to use his fluoroscope. Mud samples are taken from the well at regular intervals, and as soon as a sample is observed that contains crude oil in a solution of only one part in one million, the operator can instantly see the fluorescent glow which indicates the presence of oil. The entire operation of taking a mud sample in a pan, putting it in the fluoroscope and inspecting it can be completed in one minute. This rapidity of analysis encourages the frequent in-



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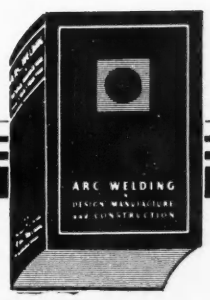

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This book is a compilation of outstanding contributions in the recent $200,000 Award Program conducted by the James F. Lincoln Arc Welding Foundation, Cleveland, Ohio. Altogether the book contains 109 award papers.

This book provides scientific and technical schools, colleges and universities, engineering bodies and libraries, as well as industrial executives and officials, a tremendous volume of data on welding. The book will also be of incalculable value to designers, engineers, architects, production officials and others desirous of obtaining the benefits attributed to arc welded construction. All photographs and drawings essential to a clear and adequate presentation of each subject are included. Each study includes designs, calculations, procedures and other pertinent information showing how the advantages attributed to arc welded construction are obtained.

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spection of samples which is required for successful wildcat operation. These products are distributed exclusively by Mid-Continent Supply Company.

Compressor Catalog

A new 28-page catalog on the Ingersoll-Rand line of "ES" compressors has just been published by the manufacturer. These machines, built in sizes from 10 to 125 horsepower and pressures from 5 to 2500 pounds, are of the double-acting, horizontal, crosshead type, designed to run at moderate speeds on heavy continuous service.

They are available for a variety of drives, including "V" belt, short belt, direct-connected electric and steam; and have found wide application in many industries. These machines are sold for compression of air and gases, on such services as refrigeration, vacuum, high-pressure and steam-booster. Special non-lubricated cylinders are available for the production of oil-free air or gas.

Four pages of this catalog are devoted to illustrations of some installations exemplifying service in several different industries.

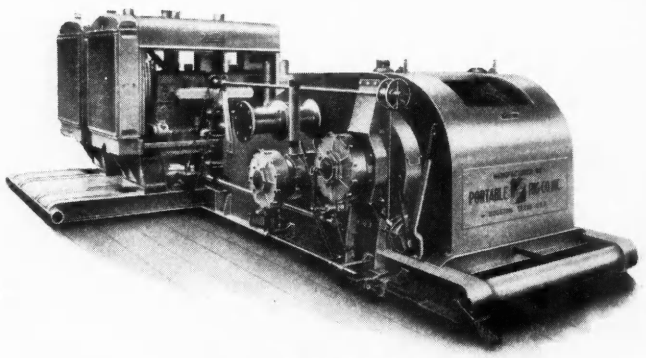
Copies of the catalog, form 3063-A, are available from the Ingersoll-Rand Company, 11 Broadway, New York City, or any branch office.

Portable Rig
PORTABLE RIG COMPANY

The new Model CT-5 Portable Rig, manufactured by Portable Rig Company, Houston, Texas, is recommended by the maker for drilling to 5000 feet with 4½-inch drill pipe. It is compact, of simple design, and features portability, simplified control, and enclosed construction.

The CT-5 is entirely enclosed in a steel case, which keeps out dirt, mud and water, and insures minimum wear and maximum service from all working parts. The case is electrically welded and securely braced to insure rigidity. The shafts are mounted in heavy-duty roller bearings which are supported in the walls of the rig, assuring perfect alignment.

A wide range of speeds is available, there being five forward and three reverse. The high or fifth speed is direct from the power input shaft to the drum and is applied through a secondary clutch on the opposite end of the drum from the regular operating clutch. High or fifth speed can be entered from any of the lower speeds without shifting gears are reducing the engine speed. The mechanism operating the clutches is so arranged that the pedal which engages the high speed clutch automatically disengages the lower clutch. Power is applied through the high clutch only while pressure is exerted on the clutch pedal. Line speeds range from a low of 270 feet per minute to a high of 2000 feet per minute.



Portable Model CT-5

Chains are single and multiple width, heavy-duty, riveted roller type operating on heat-treated cut-tooth steel sprockets. All working parts, chains, and bearings are force-feed lubricated from a high-pressure oil pump, located inside the rig case. The oil reservoir has a capacity of 40 gallons.

Patented, self-energizing, non-kicking type brakes, with compound leverage, are standard, while water-cooled brakes, of the same exclusive type as used on the larger models, optional.

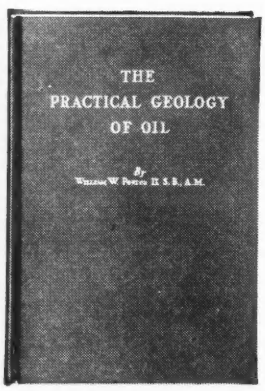
All controls are centralized at the driller's position.

Motor-Driven Compressors

Ingersoll-Rand Company, 11 Broadway, New York, is circulating a supplement to Bulletin 3426 which describes in detail compressors in sizes up to 500 horsepower. The supplement stresses the redesign of larger units (600-3000 hp.) which feature a "four-corner" construction of two low- and two high-pressure cylinders having a single motor and a single crankshaft. The bulletin is profusely illustrated.

Alloy Steels

Crucible Steel Company of America, Chrysler Building, New York, has released a brochure on crucible alloy steels, citing their efficiency and economies in a number of different applications.



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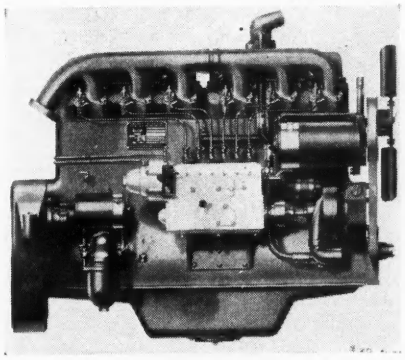
Multi-Fuel Truck Engines

WAUKESHA MOTOR COMPANY

Waukesha Motor Company, Waukesha, Wisconsin, has announced a line of engines designed to supersede existing standard L head engines for trucks and busses. The new engines, known as the Multi-Fuel, Poly-Cycle type, are intended for use with oil, gasoline, butane, or producer or natural gas by a simple switch in carburetion accessories. Since none of the internal mechanism is changed and the engine is basically the same except for fuel accessories, its weight as an oil engine is only a few pounds greater than weight as a gasoline engine.



Pump side of 140 Series Waukesha Multi-Fuel Poly-Cycle engine arranged for fuel oil.

Among other advantages claimed for these engines are greatly reduced maintenance and service costs because of the interchangeability of parts between oil and gas engines. The makers are now offering a series of 6-cylinder truck engines of 525 cubic inch displacement. The engine has 4½ x 5½-inch cylinders with a 3-inch, 7-bearing crankshaft and an output of 125 horsepower at 2100 r.p.m. When built as a gasoline engine the elbow air horn on the intake side is replaced with a carburetor, the injection equipment on the opposite side of the engine is omitted, and in place of the fuel nozzles are inserted plugs of equivalent volume so that the compression ratio of 5.8:1 is maintained. Fuel economies on Diesel oil of .5 pounds per horsepower-hour have been obtained, and slightly better fuel ratings have been obtained on gasoline.

Adjustable Liner

BETTER LINER COMPANY

Better Liner Company, 336 North Larchmont, Los Angeles, California, has just brought to the market a liner which the maker claims cannot be broken by the most severe formational movement, as a steel helical coil runs the entire length of the liner and adds more resistance against collapse than is taken away by the slotting of the pipe. Liner and liner hanger are run into the hole on drill pipe. Rotation of the drill pipe when hanger slips are set will screw or release a box at the top of the liner which controls the amount of coil compression, and thereby the size of aperture between the rings of the coil. The box can be entirely unscrewed and jarred to free the coils of accumulated sand after the well has been on production. Vertical slots in the liner tube are 1 inch wide, about 4½ inches long, and 3 inches apart, and are placed at opposite ends of one liner diameter only. The liners, which are manufactured in 5½-, 5¾- and 6⅝-inch sizes, are made up with 40-foot joints. Liner strings over 300 feet long of this type are said to be in successful operation. The lower half of long liner strings are set to allow the desired seepage through the coil, while the upper half may be adjusted from the surface, as may all short strings. In this manner it is possible to experiment with the adjustment after the liner has been placed and obtain the best performance from the well.

Pipe Line Leak Testers

Western Instrument Company, Los Angeles, has prepared a bulletin on the theory and practice of pipe-line leak detection by the vibration differentiation instrument. The instrument, which picks up, filters, and amplifies the longitudinal vibration from escaping gas, steam, air, oil, or water, is illustrated and its manipulation is explained.

Wells Is Chairman, Durkee President of Lane-Wells Company

Final moves completing reorganization of Lane-Wells Company were announced July 5 at the regular meeting of the board of directors. Rodney S. Durkee, who has been serving as executive vice president, becomes president. Walter T. Wells, president and one of the founders of the company, becomes chairman of the board. Norman L. Dorn, chief engineer, becomes vice president while M. E. Montrose, general sales manager, D. S. Jeppson, controller, and B. G. Peters, secretary-treasurer, complete the directorate.

Commenting on the reallocation of duties, Durkee said, "Since the sale by Mr. Wells and Mr. Lane of the major portion of their holdings to the public early last year, numerous changes have been made with the idea of strengthening the organization, and wherever possible improving to the last degree the character of service rendered to the oil industry. It is felt that this latest move will enable us successfully to carry out the progressive and far-reaching program upon which Lane-Wells Company embarked several years ago."

Founded seven years ago by Walter T. Wells and W. G. Lane, Lane-Wells Company has expanded steadily until today its services are available throughout all oil fields of the United States and some foreign countries. Originally a major emphasis was placed upon the gun-perforating service. With the acquisition of Alexander Anderson Company, Inc., directional drilling and well-survey service was added to the line. More recently, electrical open-hole logging known to the trade as Electrolog,

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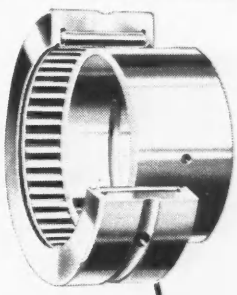
These "Solidend" MULTIROL, and Cam Follower Bearings, are widely used today in automotive and other types of engines, printing presses, textile machinery and in many types of oil equipment and special machines. They are especially superior to plain bearings which develop excessive wear. McGILL Bearings have definitely proved their ability to far outrun plain bearings, as well as other anti-friction types of bearings. Corrosion and heat-resisting types, and other special designs to order.



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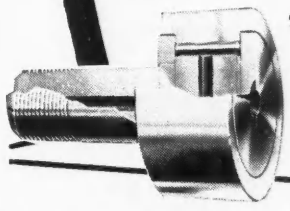
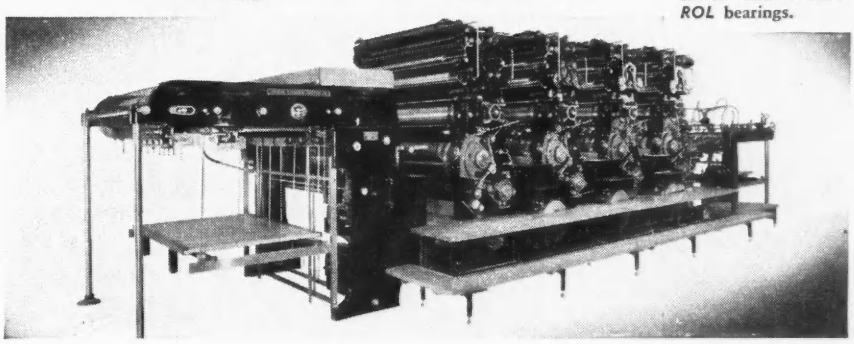


The Harris-Seybold-Potter 4-color Lithograph Press (pictured below) uses about 80 McGILL Cam Follower and MULTIROL bearings.



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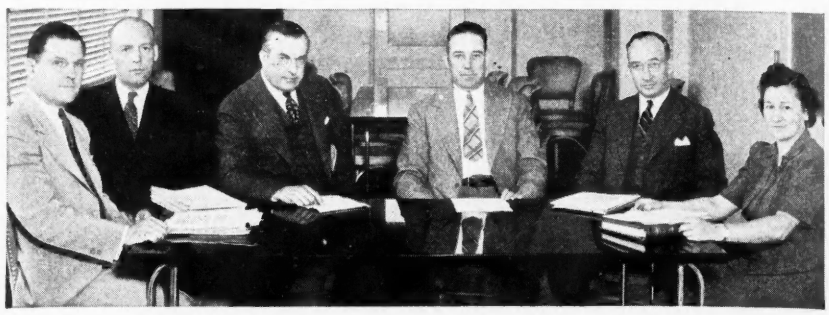

The officers and directors of Lane-Wells Company, reading from left to right: M. E. Montrose, director and general sales manager; D. S. Jeppson, director and controller; Rodney S. Durkee, president; Walter T. Wells, chairman of the board; Norman L. Dorn, vice president and chief engineer; B. G. Peters, secretary-treasurer.

has developed into another major interest of the company. In addition to its engineering services to the oil industry, Lane-Wells Company also manufactures and sells a complete line of packers and liner hangers.

C. N. Bates Promoted by Gulf Portland Cement Company

Clyde N. Bates was appointed assistant sales manager of Gulf Portland Cement Company of Houston, effective July 1. Bates has been associated with the cement industry in Houston and the Gulf Coast area for 15 years. He is a native of Wharton and a graduate of Texas A. and M. College in civil engineering. He has lived in Houston since 1924.

E. P. Martin Representing Cooper-Bessemer at Corpus

The Cooper-Bessemer Corporation has recently announced the opening of its new Corpus Christi, Texas, sales office at 314 Louisiana Street. Earl P. Martin has been appointed as directly in charge of this new office in the company's roster of strategically located branches and representatives.

Martin is a graduate of the College of Engineering at the University of Kentucky. Soon after receiving his degree in Mining Engineering in 1924, he joined The Foxboro Company as sales engineer, serving in this capacity both in Tulsa, Oklahoma, and Houston, Texas. In 1931, he became affiliated with the Montana Power and Gas Company of Butte, serving in its gas measurement department. After slightly more than three years he returned to the sales field as sales engineering representative for Pittsburgh Equitable Meter Company and Merco-Nordstrom Valve Company, being located in Houston and Corpus Christi.

EARL P. MARTIN

Geared Powers

Oil Well Supply Company has released Bulletin 186-80-P, which is a parts list for the "Oilwell" Type 80-SC geared power.

Malleable Fittings

Thomas Devlin Manufacturing Company, Burlington, New Jersey, has released a folder on heavy malleable pipe fittings, three-part flange unions, and seamless nipples.

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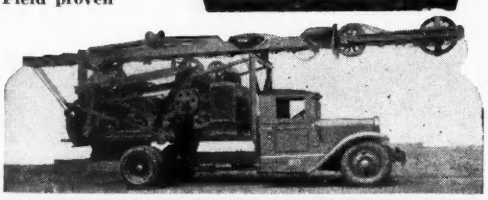

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Burton Made Sales Manager for Ash Grove Company

Ash Grove Lime & Cement Company, Kansas City, Missouri, announces promotion of Ding Burton to sales manager, succeeding the late W. R. Anderson.

Following graduation from Kansas State College, Burton started his business career with lumber interests in the Northwest and later at Kansas City. He entered the cement business in 1925 as a sales representative, and for eight years previous to his appointment as assistant sales manager in 1938, he traveled as a special representative on contract sales.

Other promotions announced by Ash Grove Lime & Cement Company include A. B. Sunderland as vice president and secretary, and R. H. Florence, sales office manager.

DING BURTON
Sales Manager, Ash Grove Lime & Cement Company.

Farrel-Birmingham Company Announces Personnel Changes

Farrel - Birmingham Company, Ansonia, Connecticut, announces the following personnel changes:

George Schaefer, formerly rolling mill design engineer, has been appointed manager of the rolling mill machinery sales division to succeed Norman Shaw.

Shaw has been appointed manager of the company's Chicago office, located at 1059 First National Bank Building, Chicago, where he will succeed Harry Temporal who is being transferred to the Buffalo division.

Edward S. Coe, who has also been connected with the Chicago office, is being transferred to the rolling mill machinery sales division in Ansonia.

DAVE BOYLAN
President and treasurer of Allied Paint Company which recently began manufacturing a full line of paints, varnishes and protective coatings at Tulsa, Okla.

General Electric Company Has 32 Percent Increase

Orders received by General Electric Company during the first six months this year amounted to $169,071,646, compared with $128,223,823 for the same period last year, an increase of 32 percent, President Gerard Swope announced recently.

Belting

"Belting Biographies," a 36 - page booklet describing the company's complete line of transmission and conveyor belts, has been published by the Mechanical Goods Division, United States Rubber Company.

The booklet represents a novel and

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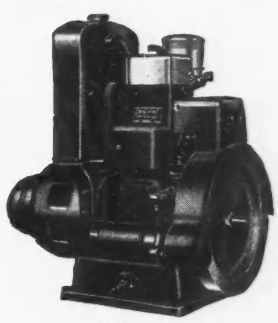

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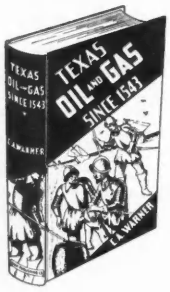

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interesting method of cataloging the company's belting products, in that instead of merely cataloging the various belts in conventional style, "Belting Biographies" shows case histories, dramatically illustrated and contains much technical information, including data on the selection of the proper belt, installation, speed of operation, pulley size, tension, carrying capacity, etc., as well as numerous types of transmission drives and conveyor layouts, together with suggestions for improving belting methods.

Portable Diesel-Driven Compressor

Chicago Pneumatic Tool Company, 6 East 44th Street, Chicago, has released Bulletin No. 762 on Class WO_2 Diesel-driven compressors, capacity 700 cubic feet per minute, mounted on rubber-tired steel chassis. The bulletin describes completely both compressor and engine.

Roller Chain Drives

In a four-page pamphlet, Diamond Chain & Manufacturing Company, Indianapolis, Indiana, shows the progress of roller chain drives, from single to 16-strands, by a series of application illustrations. The title of this pamphlet is "The Progress of Roller Chain Drives."

National Supply Company Literature

National Supply Company, Toledo, Ohio, has prepared Bulletin No. 228 on the Superior 85 horsepower horizontal, Type "CT" gas engine; Bulletin No. 248 on the National Unit Pumper Type TU7OG-JD7T; Bulletin No. 241 on the Ideal Type D-6 crown blocks and Bulletin No. 230 on the Superior twin cylinder horizontal gas engine, Type BT.

Compressors

Pennsylvania Pump & Compressor Company, Easton, Pennsylvania, is circulating Bulletin No. 184 on Class 3-AT air or gas compressors of from 5 to 125 horsepower and capable of delivery pressures from 12 to 150 pounds. The bulletin is complete in diagram, nomenclature, and explanation of design and function of each important assembly within the compressor.

Illuminated Dial Gauges

Crosby Steam Gage & Valve Company, 30 Church Street, New York, is circulating a new bulletin on illuminated dial pressure gauges furnished in 10- and 12-inch cases. The bulletin describes the mode of illumination; circular neon-type tubes within the case flange, case contained transformer, etc. The gauge lights may be operated on a 110 volt AC circuit.

Leslie Brooks, publicity director, left, discusses with General Manager Wm. B. Way, the invitation portfolio which Brooks is presenting this week to the ambassadors of the oil producing nations inviting their governments to exhibit at and participate in the 1940 International Petroleum Exposition at Tulsa, May 18 to 25.

An attache of the United States Department of State is accompanying Brooks, since the government has been authorized by Congress to invite the states of the union and foreign nations to exhibit and participate in the Tulsa oil show.

If sufficient nations signify their intention of exhibiting the exposition will erect a new International building. The structure would house base relief maps of the nations and also serve as the headquarters for international delegates.

Squeaks from the Bull Wheel

Submerged Intellect

"Well, son, how are your marks?"
"They're under water."
"What do mean 'under water'?"
"Below 'C' level."

Royal Blarney

"Haven't you been before me before."
"No, y'r honor. Oi niver saw but one face that looked loike yours, and that was a photograph of an Irish king."
"Discharged. Call the nixt case."

Who Wants to Dance?

"I don't see why he dates her; she's a terrible dancer."
"No, she can't dance, but she sure can intermission."

Virtue's Reward

A motorist had just crashed into a telegraph pole. Wire, pole and everything came down around his ears. They found him unconscious in the wreckage, but as they were untangling him he reached out feebly, fingered the wires, and murmured:
"Thank heaven, I lived clean; they've given me a harp."

Qualified

Boy, I want to see someone around here with a little authority.
Well, I have about as little as anyone, what is it you want?

Well Named

Why do you call that mutt your baseball dog?
'Cause he wears a muzzle, catches flies, chases fowls and beats it for home when he sees the catcher coming.

Confusion of Names

My son, when that great day comes where shall we find you—with the sheep or the goats?
I dunno, hardly, 'cause Ma still says I'm her little lamb, an' Pa calls me his kid, an' the fellers at school nicknamed me "Buck."

Scandal

"So your husband has been deceiving you, has he?"
"Yes, I've been giving him a dime every day to ride to work and now I find he's been walking and spending the money."

Safety First

Is this your ball I found in my yard, Tommy?
Any windows or anything broken?
No.
Yes, thanks, it's mine.

Time to Start

"Did you ever sell brushes?"
"No, why?"
"Well, you'd better get one and start selling. That's my husband at the front door."

Easy

A professor was trying to demonstrate a simple experiment in the generation of steam.
"What have I in my hand?" he asked.
"A tin can," was the answer.
"Is the can an animate or an inanimate object?"
"Inanimate."
"Exactly. Now can any little boy tell me how, with this tin can, it is possible to generate a surprising amount of speed and power almost beyond control?"
One little boy raised his hand.
"You may answer, Carter."
"Tie it to a dog's tail."

Change in Stance

"Aren't you the little girl who used to shrink from my embraces?"
"I don't recoil at the moment."

Consolation

"Dear, dear!" he remarked, "there canna be worse players than myself!"
"Weel, weel, maybe there are worse players," commented the caddie consolingly, "but they dinna play."

Found—An Honest Man

"What were you in the war?"
"A private," the soldier answered.
And Diogenes blew out his lamp and went home.

Old Timer

"What model is your car?"
"This car ain't no model—it's a horrible example."

Heavy Losses

A small boy came hurriedly down the street, and halted breathlessly in front of a stranger who was walking in the same direction.
"Have you lost half a dollar?" he asked.
"Yes, yes, I believe I have!" said the stranger, feeling in his pocket. "Have you found one?"
"Oh, no," replied the boy. "I just wanted to find out how many have been lost today. You make 55."

Getting in Practice

The newlyweds had just gotten off the train.
"John, dear," said the bride, "let us try to make the people think we have been married a long time."
"All right, honey," was the answer, "you carry the suitcases."

No Romance

"So you met your wife at a night club? Wasn't it romantic?"
"Naw, it was disastrous. I thought she was home taking care of the kids."

A Lazy Poet to His Love

You are a wonderful, marvelous gal,
Ditto, et cetera and so forth, et al.

No Gauge

"How tall is a WPA worker?"
"I couldn't say. I never saw one stand up."

Increases Production

The MILLER Sand Pump is always FIRST CHOICE of men who watch production costs closely. That's why it's used throughout the World for cleaning-out quicker . . . *INCREASING PRODUCTION.*

The MILLER is made in diameters of 2½, 3, 3½, 4, 4¼, 5, 5½, 7 and 9 inches and lengths of 20, 25 and 30 feet. 5/32-inch wall thickness in REGULAR Type, ¼-inch wall tubes HEAVY Type Sand Pumps.

INTERCHANGEABLE BOTTOMS
To Meet Every Condition

- **BAILER BOTTOM** — With the Bailer Bottom installed the MILLER is quickly changed to a Bailer giving you a combination of either Bailer or a Sand Pump in one tool.
- **SAND BOTTOM** — Used when tools are run and when well is shot to quickly remove loose material.
- **STAR BOTTOM** — Used for cutting the sand loose.
- **CHISEL BOTTOM** (In Pump) — With this bottom tightly packed sand can be easily broken in small pieces so it can be picked up in the pump.

Write for Descriptive Folder and Price List

See Pages 1564-65 COMPOSITE CATALOG

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NO. 1523608
NO. 1767380
NO. 1862828
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Back of Hazard "NONPARELL" ropes are 93 years of wire rope making experience. "NONPARELL" lines are so superior in performance that many drillers have bought Hazard lines continuously over a period of many years.

● Hazard's LAY-SET Preformed Green Strand is preferred by an ever increasing number of rotary drillers because:

1st—LAY-SET Green Strand is made of Improved Plow Steel—the true *service metal* for rotary lines;

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In LAY-SET Preformed Green Strand Rotary Lines there are no life-shortening stresses; no cranky resistance. Being preformed, LAY-SET Green Strand Lines are . . . much easier to thread through the traveling block, crown block, and eye in drum . . . do not have to be back-twisted . . . whip less at high speeds . . . spool tightly regardless of load . . . resist kinking and require no seizing.

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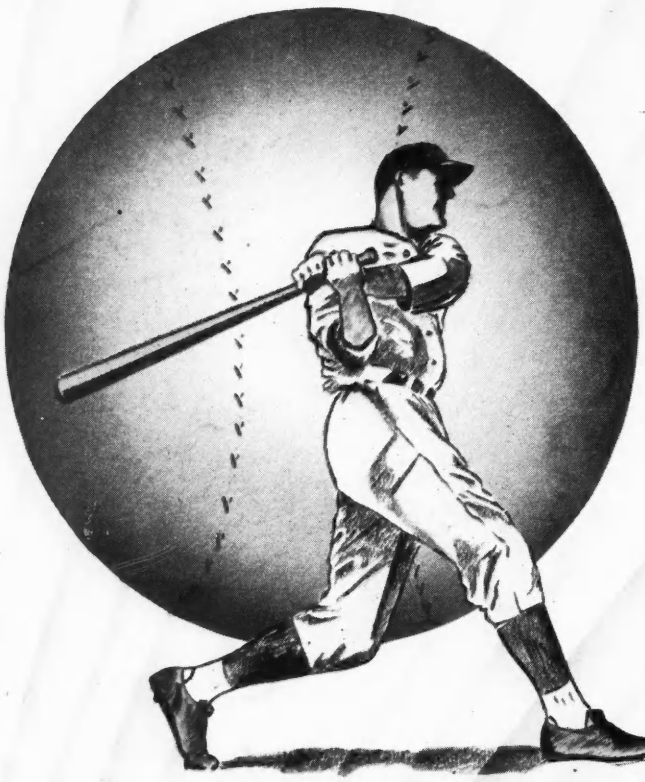

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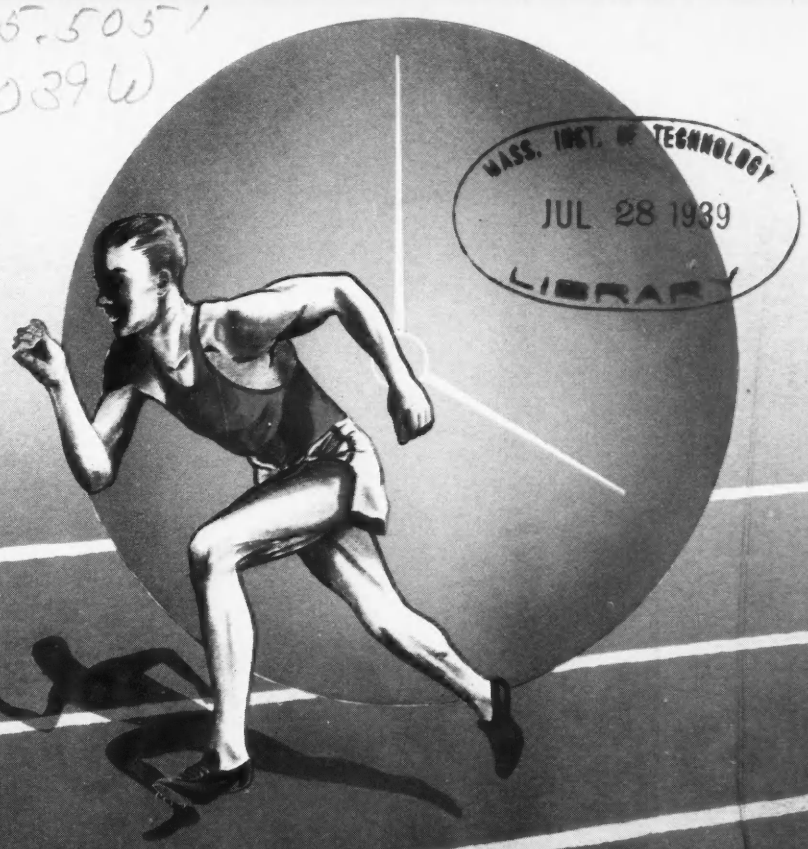

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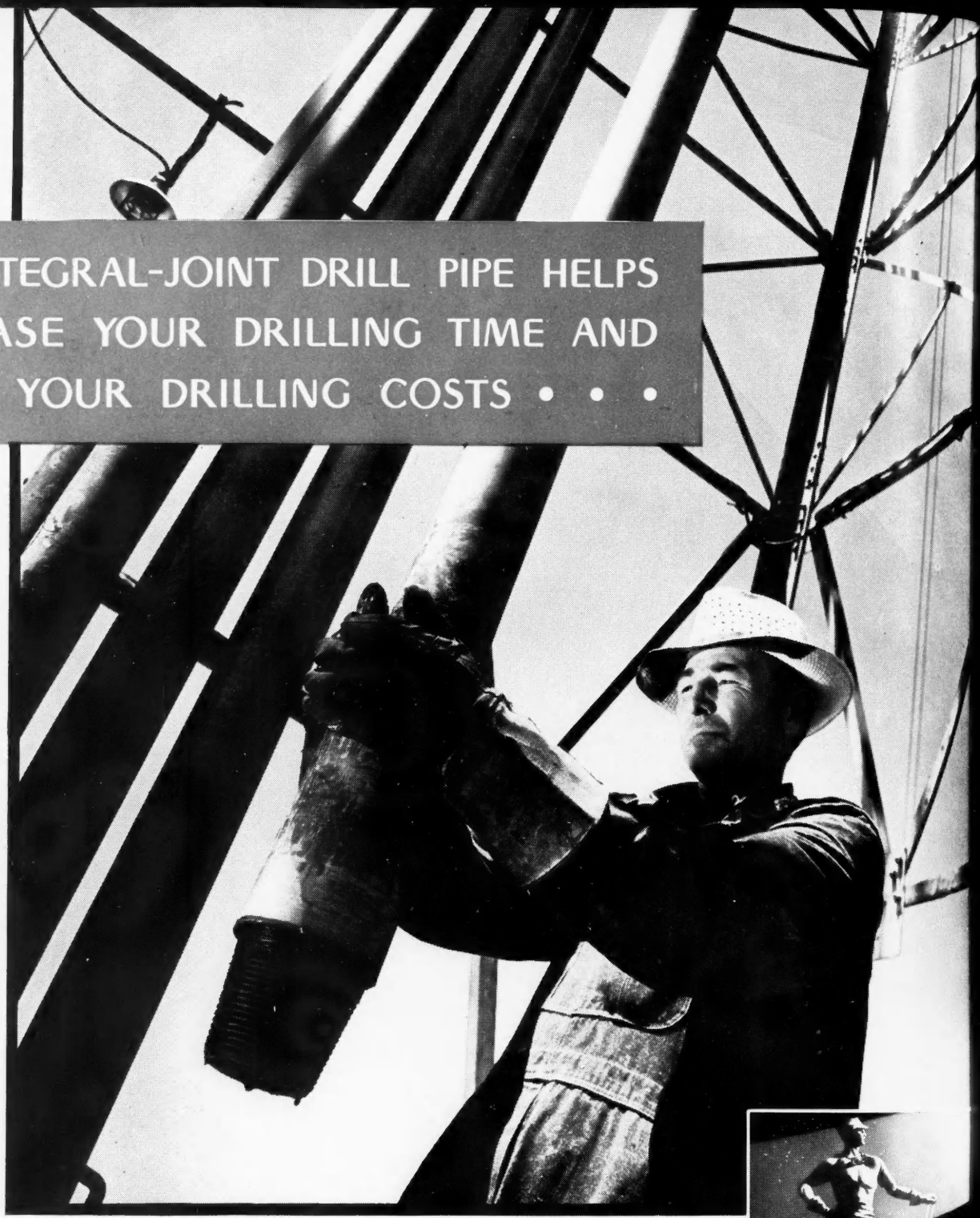

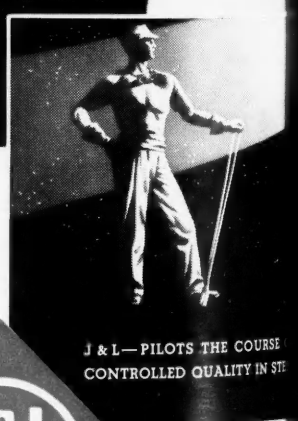

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BY SQUEEZE CEMENTING

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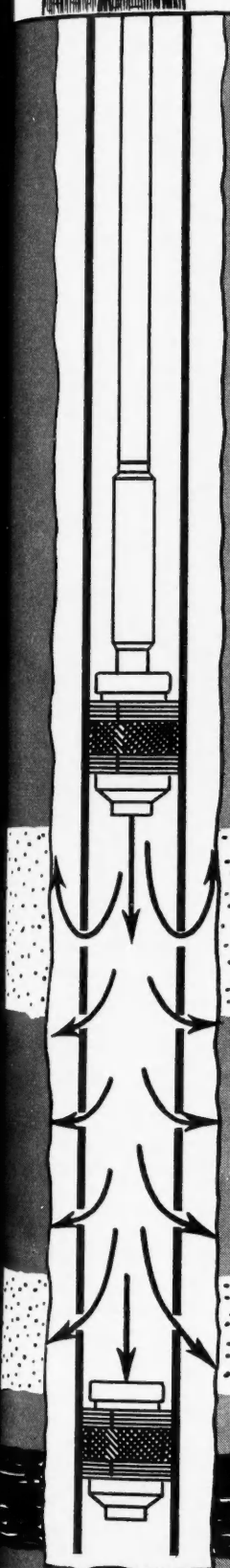

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PLUGGING BACK TO UPPER ZONES

TESTING UPPER CASED FORMATIONS

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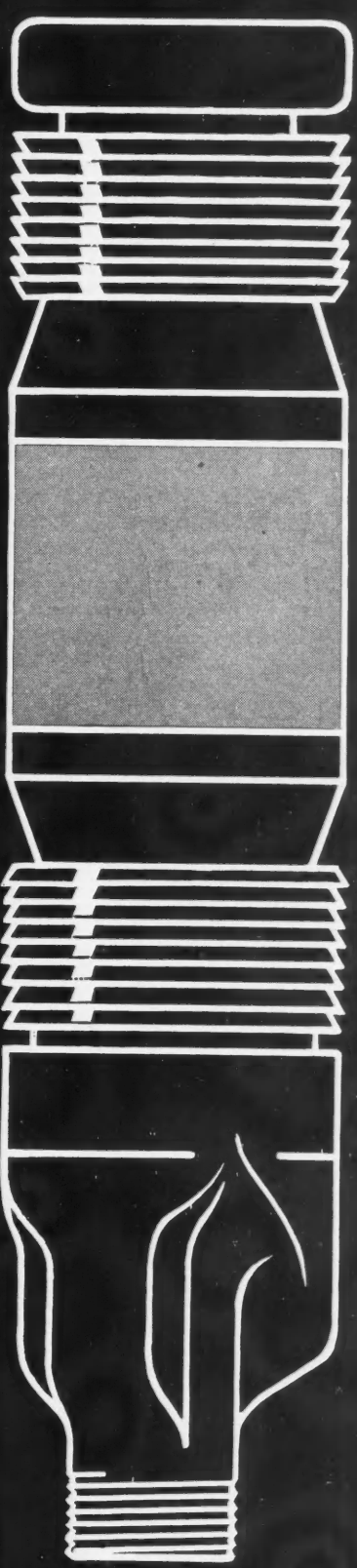
AS BRIDGE PLUG



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In the truest sense of the word—

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describes DEVLIN Heavy Oil Malleables!

DEVLIN ELBOWS & TEES

For 300 pounds Working Steam Pressure and for cold, Non Shock Working Oil, Water or Gas Pressures as follows:

1" and smaller..2000 lbs.
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Full range of sizes available in Black or Galvanized finish.

FRETZ SEAMLESS NIPPLES

Made from new high quality tested seamless tubing . . . accurately threaded . . . carefully reamed. Standard, Extra heavy, Double Extra heavy, Black or Galvanized. Shipped with Distinctive Devlin Thread Protectors.

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Ground Joint—Brass to Iron Seat—300 lbs. Working Steam Pressure; 600 lbs. Cold Oil, Water or Gas Working Pressure. Sizes 2", 2½", 3", 4". Black or Galvanized.

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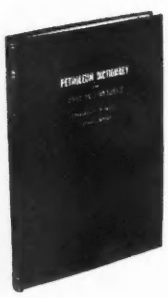

Petroleum Dictionary

By **HOLLIS P. PORTER**

A Registered Engineer

This new edition of PETROLEUM DICTIONARY has been much improved. Three hundred words have been defined and added. Many changes in the vocabulary of those employed in this rapidly developing industry have made additions and enlargements of the book necessary.

This book grew out of demands for some source of definitions for terms used by the petroleum industry. The first edition went into the hands of executives, engineers, students of Petroleum Engineering, manufacturers, brokers and advertising agencies. It should be in the library of every one in any way connected with, or interested in the petroleum industry.

253 pages, 330 words and terms defined. Size 6x9. Price postpaid $3.00

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LOOKING AHEAD

WITH THE EDITOR

Deep Drilling Progress Number.

THE arts of drilling and prospecting for oil at great depths have shown amazing progress in recent years, indicating a new era of exploitation for the industry.

Do you know of these numerous and important changes that have taken place? What do you know about advancements in prospecting for deep structures, such as delineating beds at 20,000 feet and the use of chemical methods? Are you abreast of the trends in speed of rotation, weight on the bit, circulation volumes and mud practices on deep tests? Do you realize what significant changes in design and metallurgical formulae that have taken place in drilling equipment? What are the additional problems found in completion of deep holes, and the methods successfully performing this operation today? Does crude oil have different characteristics at advanced depths than at shallow horizons? Are safety problems multiplied with deeper drilling, and if so, in what way?

All these subjects are to be covered thoroughly in July 31 issue of THE OIL WEEKLY, which will be a "Deep Drilling Progress Number."

With the thoroughness of modern prospecting technique becoming more effective every day, and with drilling rigs capable of going to 18,000 feet, deeper prospecting and exploitation appears a definite trend. The concise symposiums on this subject in next week's OIL WEEKLY are expected to prove helpful to those engaged in such operations.

The OIL WEEKLY. Published every Monday. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

ANNOUNCEMENT

IN ORDER to more fully serve our customers in the oil fields, the BAROID SALES DEPARTMENT wishes to announce the acquisition of the Drilling Mud business of the Geo. S. Mepham Corporation and C. K. Williams & Company of California.

This will enable us to offer to the trade, in addition to the products previously handled by this company, the products formerly handled by the above mentioned companies. These products include COLOX, JELOX and "CHEMICAL Z", and they may be obtained in the various oil fields from the same distributors by whom they have previously been handled.

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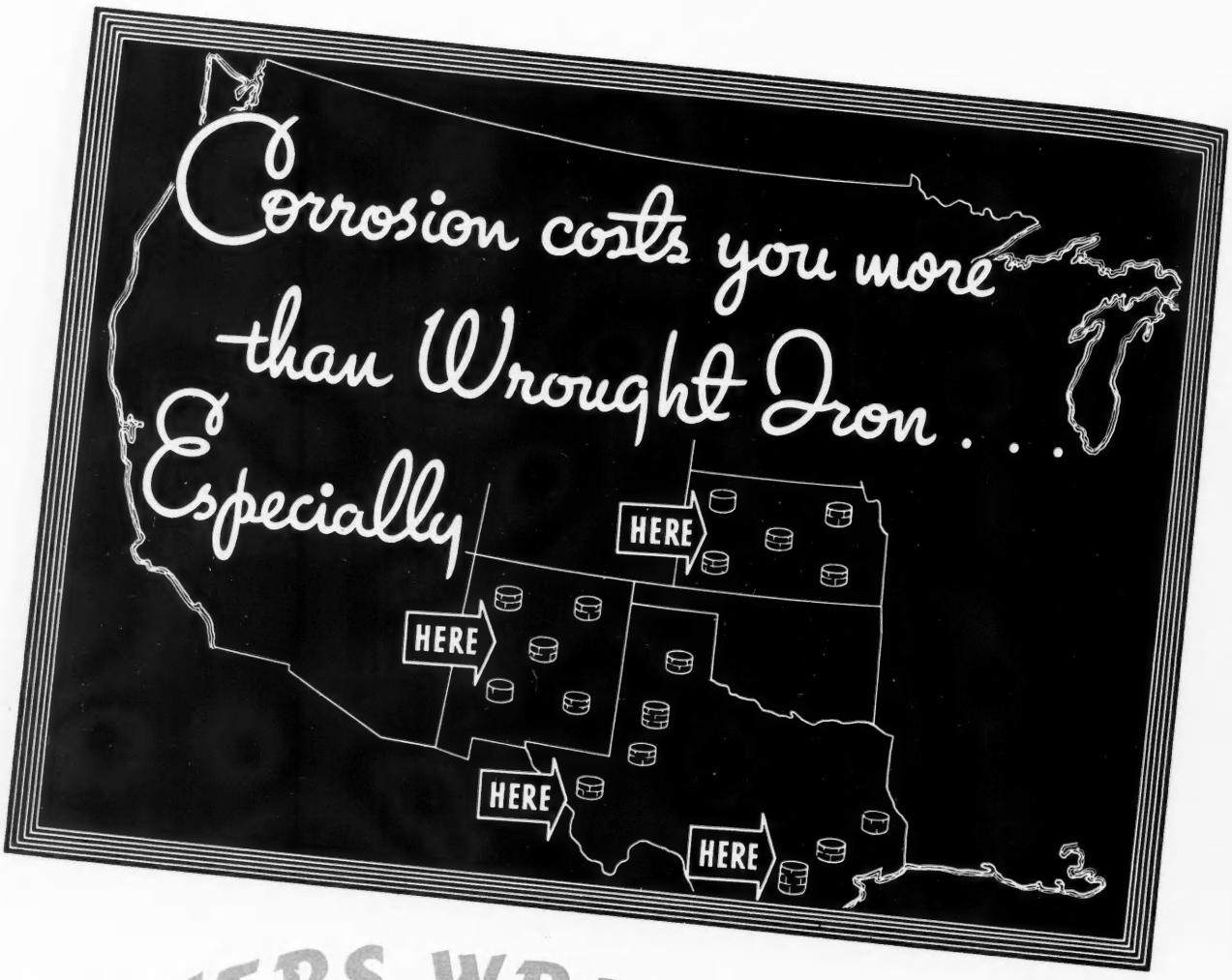

BYERS WROUGHT IRON

In Kansas, West Texas, New Mexico and the Gulf Coast, Public Enemy No. 1 is corrosion. Sour crudes soon finish off vulnerable materials, multiply storage charges because of frequent repairs and replacement and excessive maintenance.

In these fields, wrought iron's superior service in lease tanks is of great importance. Comparative tests show actual field service ratios of 2.87 to 1 for wrought iron bottoms; 3 to 1 for wrought iron side sheets; 4.2 to 1 for wrought iron roof decks. The ratio on wrought iron side sheets and roof decks is based on life to date . . . they are still serving. Because of proven results like these, over thirty producers in the sour crude fields are using lease tanks of Byers Wrought Iron.

Even in operations outside the sour fields, wrought iron lease tanks can frequently offer definite savings and added protection. Sweet fields sometimes come in sour. Wells "on the pump" produce increased quantities of salt water. Anticipating such situations with wrought iron lease tanks stops trouble and expense before it starts.

If you have, or anticipate, corrosion difficulties in connection with crude storage, our Engineering Service Department will gladly furnish you data and service reports that will let you determine whether corrosion costs *you* more than wrought iron. Just write.

A. M. Byers Co., Pittsburgh, Pa. Established 1864. Oil Country Representatives: Houston, 506 Niels Esperson Bldg.; St. Louis, 1270 Arcade Bldg.; Tulsa, 1112 South Troost Ave.; New Orleans, 411 Lowerline St.

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